JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Vol. X FEBRUARY, 1922 No. 2

Shadows and Straws

THE DISCUSSION over the form of war memorials should be considerably stimulated by the report of the Sub-committee on the Form of Memorial to Soldiers, Sailors, and Marines to be erected by the City of Boston, an illustration of which appears elsewhere. From the report of the Committee we quote as follows:

"Your committee gave much consideration to the question that goes to the root of the whole matter,—should a memorial be a utility or a thing of the spirit. It received many suggestions of utilitarian objects; for instance, a boulevard through the tenement districts of the city or radiating from the center to the suburbs; a City Hall with incidental buildings; and buildings,—and these were many—for semi-private institutions dedicated to public use.

"The committee was entirely prepared to admit that these and similar utilitarian objects are important civic institutions and should be built by those particularly interested in such objects. But it thought that such buildings would not themselves be memorials at all. . . . .

"Nor could such structures be made memorials merely by a name or dedicatory inscription. The meaning of a name is soon forgotten, a dedication is soon unnoticed. Thousands have trod Washington Street this day. How many have thought of Washington? Thousands have passed buildings over whose doorways dedications have been carved. How many have noticed them? How many can repeat accurately a single dedication in one of our great cities?

"If these utilitarian institutions are not memorials in themselves, and cannot be made so by name or dedication, they should not be foisted on the great emotional desire of the public to contribute to suitable memorials."

As the illustrations indicate the committee therefore proposes an island development in the Charles River basin, with a tower, an auditorium, a great carillon, and supports its recommendations by pointing out the spiritual significance of such things as the music of chimes drifts over the city where thoughts are "dwelling on vastly different things."

The report is a well reasoned document, yet one cannot but feel that its writers were really very conscious of the tremendous difficulty of memorializing anything or anybody in an age where the emotional nature of man is appealed to as never before, and to a point where nothing hits very deep or leaves any very lasting impression. Of course the plain truth is that the only real memorials are those which lie in the hearts of men and so far as modern times go, it is difficult to believe that any message can be carried far in this direction by any of the arts. It is a pathetic conclusion, yet what other is possible as one contemplates the endless appeal of and for everything under the sun from starving refugees in Syria to Debs in Leavenworth. It is a never ending flood either of carefully sharpened lancets by which to prick the pockets of our sympathy, seductive opiates through which to lull us into tacit acquiesence, or clarion calls designed to arouse active support, all of which it is the object of propaganda to secure. And, in the last resort, a memorial is a form of propaganda—of the very highest and noblest kind to be sure. It is designed to be and to bear a message. Yet how to make it compete spiritually with the endless other messages that are being devised and circulated, in very spite of our wish to heed them, is a task almost if not quite beyond the reach of men.

THE CHICAGO TRIBUNE has suggested a citizens' commission to which designs for important public buildings might be submitted in the interest of architecural harmony and civic esthetics. Mr. George Maher, Chairman of the Municipal Art, Zoning and Town Planning Committee of the Illinois Chapter sponsors the proposal in a letter from which we quote as follows:

"The singling out of a structure yet in its tentative stages of sketch development might be questioned, yet the principle involved, affecting the right of the public to protect itself against unsightly structures, is all-important, especially where such structures are to be erected on a great public thoroughfare.

"The editorial (in the Tribune) rightly states that an 'autocratic government could act promptly and effectually, whereas a democracy finds no way to exercise its will in such matters, even when it has critical judgment to protect itself. But public opinion, if it is aroused by men and women whose interest in the creation of a beautiful city is active and whose taste is cultivated, may accomplish a great deal.'

"The architectural profession welcomes this sane and very practical attitude. It is strange, indeed, that the importance of this publicity has been so neglected in the past and, as a result, great buildings, viaducts, monuments, and permanent bridges, have been permitted to be erected that have permanently hindered the artistic aspirations of a great metro-

polis. However, with the exercising of the new zoning law that experts are compiling, and when the law is put into effect, Chicago may hope for an improvement of this problem.

"Standards of taste may or may not be enforceable by law. But if not, it is the responsibility of the public to evolve methods of procedure for their protection, since we know that no matter how broad and comprehensive a city is planned topographically the ultimate result in city beautification cannot be successful unless the structures that line the streets and avenues are reasonably harmonious in design and architecture. As a suggestion that might be of value, a citizen's committee of broad and cultured tastes and proven record as regards disinterestedness in public affairs might be commissioned and clothed with legal authority to undertake the supervision of general building designs. At least an attempt should be made to give proper authority to some commission to see to it that Chicago develops according to accepted standards of taste and architecture."

We imagine that Mr. Maher's opinions will be warmly challenged in many quarters. Democracy is indeed in a desperate plight, in many ways, yet much as we have given up to the autocratic regulation of our public lives and conduct, we doubt whether we are yet ready to take the step he suggests. "Accepted standards" would require an autocratic definition, to begin with, and is in itself a point upon which neither the enlightened public nor the architectural profession could ever agree. We think it is best so, and that ample room for the development of harmonious architecture is still to be found without the application of autocratic control, even were such a thing likely to obtain. The Commission of Fine Arts has only an advisory power, and the various city Art Commissions have very little power, if any, over private building activities. Is there not here a lesson that really must be learned by a democracy, which, after all, can do what it wills and which very likely cannot survive unless it wills to do better than it has done?

C. H. W.

The Architect and Social Reconstruction

By THOMAS ADAMS

Lack of Creative Force in Governments

PROBABLY every country suffers from inability to get creative force applied through Government agencies in social problems. Such poverty of constructive initiative as there is in American political leadership may be due to the fact that most of the leaders have exhausted their creative powers in building up individual wealth and position before they achieve prominence as politicians. In older countries the absence of such powers is probably due to the same cause, but in a lesser degree, and there are other causes that operate in these countries that do not touch American life.

In England there is for instance the glamour of imperialism that attracts and holds the minds of men of great creative resources. Such men consequently have only an academic interest left for the upbuilding of the social life of their own country. They spend much money and brains in adjusting the relations of widely scattered regions and they keep themselves fully employed in giving or withholding freedom to the constituent nations of the Empire as expediency dictates.

Whatever may be achieved as a result of the Washington Conference and of the belated granting of more freedom to Ireland will be of immense value in lessening the pre-occupation of British statesmen with problems of imperialism and armaments, although new problems of international or imperial scope will probably attract and hold their attention.

Except in respect of the false economy that consists of spending vast sums of money on schemes for the extension of British influence over alien peoples, while starving industrial enterprise and means of promoting healthy living conditions at home—one may dismiss the cry for economy as a selfish excuse for neglecting certain important forms of social reconstruction. Much of the reconstruction that is needed consists only of freeing the channels of enterprise from obstructions caused by antiquated laws—for instance, in regard to land; of boldly removing the impediments to free trading and productive labour, and of applying more science to civic development—such as can be accomplished by town planning.

With less resort to expediency and more regard for sound principles politicians in England would soon bring about an improvement in financial conditions. The giving of doles and subsidies may be necessary as palliatives for political errors of the past, but they are not a proper substitute for preventive measures that deal with the removal of causes. What is more needed is the application of creative force to procure the reconstruction of industrial, financial and social conditions in accordance with modern needs.

"Life lies before us as a huge quarry before the architect," says Goethe:—"he deserves not the name of architect except out of this fortuitous mass he can combine, with the greatest economy, suitability and durability, some form the pattern of which originated in his own soul."

Goethe speaks of the problems of life which confront us individually. The problem of social life confronts the statesman in the same form. He can either act as the policeman and content himself with imposing and enforcing the regulations under which the operations of social life are carried on, according to precedent, or he may act as architect and help to plan the building of an enduring civilization. When he disclaims re-

sponsibility for social reconstruction on the plea that it is his duty to govern and not plan and create, and that any guidance he might give to social improvement would be an interference with private enterprise, he forgets that every law and regulation he imposes either helps or retards social progress. It there a shortage of dwellings? Then has the Government helped to create the shortage by defective land laws and by extracting private capital for political needs? Are houses crowded and insanitary? Then is it practicable to correct the evil by private enterprise or to alleviate it to a material extent by police regulations after the evil is perpetuated? Is not the duty of the true statesman to prevent social evils by constructive policies?

The Architect and Public Life

Architects are trained to use their creative powers in directions more closely identified with social life than any other group of individuals. Engineers should be similarly trained but their education needs broadening in the cultivation of initiative. Both architects and engineers should take a larger share in public life. Their creative qualities are needed to offset the deadening influence of the lawyer in relation to constructive social work or the detachment of the international diplomatist from social problems.

There is talk in England about the architectural profession being overcrowded, and that too many men are being trained for the work which needs to be done. In a narrow sense of professional practice this may be true. In the wider sense of public need and professional opportunity it is far from true. More men are needed to be trained to influence public life and thought along constructive lines. If the profession becomes too overcrowded for "bread and butter" purposes may it not be because its members have too restricted an idea of their power and opportunity? It is certainly true of England that there is lack of creative force in the public life of the country and also that the architect is too much the hewer of wood and the drawer of water for the lawyer-politician.

Some progress is being made in enlarging the responsibilities of architects. When the writer went to the Local Government Board (now the Ministry of Health) ten years ago the Board had one architect to advise on building by-laws. It still has the same architect and in addition several others in charge of divisions.

Increasing numbers of cities have official architects. It is being recognized that all cities should have architects as permanent officers and there are some who regard this as a misfortune to the profession. If we think of the contribution that the official architect makes in the form of constructive ability and imagination to the public bodies by whom he is employed, we must look upon his growing public connections with favour. It may not be a misfortune to the profession that he is so employed so long as he is strong enough to exercise his proper influence.

In the more prominent fields of public life—in Parliament and in public bodies generally the architect has not taken much part. It is against his nature to do so if he be a true artist. He detests the showy vulgarities of political life. He hates the demagogue—beloved of the mob. He has no desire to swallow his principles for the sake of power. Yet he is needed in public life to counteract these very things.

After all the art of public speech is not an unworthy art. Through it the man of creative skill has the power to make his special qualities felt in the framing of public policies. As an artist and, at the same time, a man of action he may be the greater orator, if he seeks to cultivate the power of vocal expression. May there not be more hope of getting men of the active and creative professions to become politicians than of getting men who are politicians *ab initio* to become men of imagination?

It is admittedly easy to put forward abstract ideas about the need for enlarged architectural responsibility in social and political matters and difficult to suggest concrete proposals. It may be, however, that by appreciating the fact that both public and business life are so much in need of the kind of qualities possessed by the trained architect, that we need not fear that too many men are having the qualities developed. Many students in architectural colleges should never pursue the profession of architecture, but that does not mean that their time is being wasted. What they are learning will be of more practical use to them in other occupations and especially in public life than other things they are taught as a part of their general education. They are getting the kind of training that is needed to make up for the deficiencies of the ordinary school instruction. They are being made to cultivate imagination and to learn how to create things.

Perhaps we may yet learn that instruction in or cultivation of any art, and especially of civic art, is more important in the education of the young than the memorising of dead languages. What a power of good would exist if much of the time given in a country like England to learning latin grammar and historical data, that are not retained long in the memory, were devoted to training the child to make things and to understand and enjoy structural and natural beauty! The worst condemnation of our systems of education is the fact that we have such low social ideals and such a lack of cultural appreciation amongst the multitude who have been educated according to existing standards.

In addition to creative leaders, therefore, England needs a better and differently educated population before she can achieve any great advance in social reconstruction.—*London, January, 1922.*

Competitive Bidding on "Cost Plus" Contracts

By F. W. LORD

In Competitive Bidding on "Cost Plus" Contracts, submitted herewith, a fee is to be quoted as the profit to be charged on the work, over and above the net cost, plus overhead: if anything is saved on the net cost, the contractor is allowed a bonus, and if the cost is exceeded, the fee is reduced. This form of contract has been frequently followed and with marked success.

Now there are considerations other than price which should determine the acceptability of a contractor. Some contractors are especially fitted to do all kinds of work, while others have narrow limitations, which, besides applying to the nature of the work and its location, also often apply to the quantity of work which can be handled efficiently. Most owners insist on competition, and quite properly so. But in judging the bidders on price alone, the easiest and most convenient way, many other considerations are lost to sight.

Among these may be mentioned: cost of work as affected by the overhead charges; years in the business as an indication of general experience, and efficiency of the working force depending on the average length of service; experience in handling certain highly specialized kinds of work; reputation as to general business methods, and fair charges; reputation as to quality of work; financial rating and credit—affecting not only the cost of work, but prompt deliveries; stockroom with supply of materials, workshop, amount of plant and labor-saving tools; proven ability to do work at high speed, depending on engineering training; ability to anticipate requirements.

Assuming, for the sake of argument, that all the prices submitted by the competing contractors on an important piece of work are identical, obviously the work would be let to the concern which had the best reputation and the most experience. This is advanced as a convincing way of bringing out the fact that there is often a great difference in contractors, and that it is therefore against the best interests of the owner to consider all bidders on the same plane and judge their proposals by the price alone.

Every architect has had sad experiences as the result of letting contracts to contractors merely because the price was low. If the architect would pay more attention to the other considerations just pointed out, the owner's interests would be better conserved. The difficulty lies in not being able to show in a convincing way the money value of service. Most owners think an architect can make a poor contractor live up to the spirit of the contract by enforcing the letter of the plans and specifications. But if a contractor thinks of his profits more than he does of his reputation, in nine cases out of ten the owner suffers.

There is nothing to be gained however by criticizing the usual method of awarding contracts unless some better way is suggested.

Now in letting "cost plus" contracts in the manner described herewith, real competition is provided, but of a much broader kind than under usual conditions. The system affords a scientific method of appraising service, and an intelligent way of measuring the reputation, efficiency and experience of the competing firms. By this system the owner is reliably informed as to his commitment, and the incentive to the contractor to obtain extra work and so increase the cost is discouraged.

Finally, and most important of all, the tendency is to make the contractor function as partner of the owner, and look after his interests instead of trying to run up as big a bill as possible. This may sound like an extravagant statement, and altogether too Utopian to be true. A careful analysis of the following description will show, however, that not only is the temptation of the contractor to exploit the job eliminated, but a premium is held out that makes for business idealism together with the assurance of a fair price for the work done.

Description of the System

In the selection of a contractor under this system, each one is required to submit not a lump sum bid, but his complete itemized estimate sheets, showing net cost of labor and materials; and to fill out a questionnaire; also to state the percentage of overhead expense he will charge, and his fees for doing the work, it being understood that this fee will be increased if a saving on the cost is effected, and decreased, if exceeded. The details of this increase or decrease depend on circumstances.

There are several reasons for submitting the itemized estimates, as will be explained. First of all, one of the qualifying considerations in judging contractors would be the accuracy of their estimates. The method of appraising each contractor under this heading is explained below.

The chief reason for sending in itemized estimates is to give the owner a correct idea of the probable cost of the work. Obviously, the accuracy of these estimates will be a most important factor in determining preference, and also it is evident, from the explanation of this system, that it will be possible for the architect to obtain extremely reliable information as to the total cost of any piece of work, by thus getting the individual, careful, unbiased estimates of different expert estimators. Furthermore, it will be understood that these estimates will be turned over to the architect in order to give the owner the advantage of the combined purchasing knowledge of all the bidders. The owner will thus learn the lowest bid obtained by each contractor for each item, it being understood that the contractor to whom the work is let will be governed by such information and prices in carrying out the work.

It is realized that this is asking a good deal from contractors, to request them to divulge their purchasing power and experience. It is however fair to suppose that this information will be given, in view of the mutually advantageous features involved in this system of letting contracts.

An additional advantage to the owner in having the itemized estimates thus submitted is the protection from collusion in bidding afforded by the absence of incentive thereto. If collusion does creep in it can easily be detected by comparing the itemized bids. Protection against

fictitious competition is a very real advantage offered by this system.

In comparing bidders the various qualifying factors are taken into consideration and appraised as described below. The order of importance and the maximum points allowed for each have been tentatively determined on the basis of a consensus of opinion of intelligent experts to whom this system of letting contracts has been explained. The list consisted of various prominent architects, engineers, bankers, contractors, and owners who have had experience in building. If this system of competitive bidding on "cost-plus" contracts is adopted a wide canvass of poinion should be taken in order to obtain an unassailable basis of appraising the qualifying considerations. The tentative order and number of points allowed are:

Qualifying Considerations.	*Maximum Points Allowed.*
1. Reputation	190 points or 19% of the total
2. Experience	160 " " 16% " "
3. Organization	150 " " 15% " "
4. Financial Rating	120 " " 12% " "
5. Accuracy of Estimate	110 " " 11% " "
6. Overhead Expenses	100 " " 10% " "
7. Fee	90 " " 9% " "
8. Plant	80 " " 8% " "
	1000 100%

The method employed of appraising each contractor under the several headings follows by captions.

1. Reputation *Maximum Points Allowed—190*

Under this heading the different bidders would be marked in accordance with the architect's opinion as to their reputation for quality of work and general business methods, fairness of charges, ability to do work quickly.

The reputation factor is of course flexible, being more or less one of opinion, and differing with different architects. The contractor who had satisfactorily carried out a great many successive pieces of work for the same architect would of course be better rated under this heading than a man not so well known.

For example, in appraising their reputation the points allowed to the different bidders might be as follows: A, 160; B, 140: C, 150; D, 180; E, 100.

2. Experience *Maximum Points Allowed—160*

The experience rating would be determined by individual appraisals or opinions of the architect with help of references and other data submitted by the different contractors, or as the result of previous dealings with them.

In many cases, such as a simple loft building, or mill work, there might be very little difference in the rating of different contractors as each one might be sufficiently capable; but in the case of fine residences, bank buildings, or similar structures, special experience would necessarily be considered.

Assume that the architect, basing his judgment on years of experience with the work done by the contractors in question, and on the references submitted, would award under this heading; A, 150 points; B, 160; C, 125; D, 90; E, 100.

3. Organization *Maximum Points Allowed—150*

Here a similar appraisal of the different bidders would be made. In many cases a one-man concern would do just as well as a firm with a highly departmentalized organization. But under other circumstances, where the work is of magnitude, the time factor very important, and where mistakes and delays would be especially expensive, amplitude of organization should certainly be taken into account. Therefore each contractor would be asked to submit a brief description of his available force, stress being naturally given to the number of years he had employed in the organization of his foremen, superintendents, and principal mechanics; it being well understood that a nucleus of steady men will show greater productivity than men especially hired (known as the "floating class") for a job.

We will assume that the points allowed to the different contractors under this heading are as follows: A, 150; B, 160; C, 90; D, 100; E, 110.

4. Financial Rating *Maximum Points Allowed—120*

Whether or not each contractor, pays his bills promptly and gives cash discounts is of considerable importance, as financial rating not only affects cost of the work, but often explains why some contractors get much better deliveries of materials than others.

Under this heading the architect would have in his file ratings, from Dun's and Bradstreet's, of the various contractors, or if not, satisfactory references. For relatively unimportant contracts all bidders might be rated equally, but for large operations this point would have to be considered very carefully.

Let us assume that different contractors would be allowed A, 100 points; B, 90; C, 105; D, 80; E, 70.

5. Accuracy of Estimate *Maximum Points Allowed—110*

Under this heading each estimate would be compared to the average of all estimates submitted, and the bidder nearest this average cost, after elimination of any obviously wide or inaccurate estimate, would get the highest number of points; the others less in proportion.

For instance, assuming the cost of the work as determined by such average of bids submitted to be $100.00 and that the individual estimates submitted were as follows:

If A's estimate were	$110,	it would indicate a	10%	error
" B's "	"	93,	"	"	7% "
" C's "	"	102,	"	"	2% "
" D's "	"	99,	"	"	1% "
" E's "	"	96,	"	"	4% "

It will thus be seen that:

A would be allowed	90%	of 110 points	or	99	points
B " " "	93%	" " "	102	"
C " " "	98%	" " "	108	"
D " " "	99%	" " "	109	"
E " " "	96%	" " "	106	"

6. Overhead Expenses *Maximum Points Allowed—100*

In this case, similarly with the fee charged, bidders quoting the lowest overhead generally would be allowed

the greatest number of points, with others less in proportion. For instance,

A	quoting	8%	overhead,	allow	92%	of 100	pts.	or 92	pts.
B	"	7%	"	"	93%	"	"	93	"
C	"	10%	"	"	90%	"	"	90	"
D	"	15%	"	"	85%	"	"	85	"
E	"	20%	"	"	80%	"	"	80	"

A high overhead of a thoroughly proven organization would not necessarily receive a low rating, as it is well known that in certain efficient concerns much of the overhead expense results in a direct saving on the cost of the work. There are many instances when a dollar's worth of high priced time will save fifty or a hundred dollars in materials and payrolls. Under this heading, the rating given will depend on the previous experience the architect has had with the contractor.

7. Fee *Maximum Points Allowed—90*

In comparing fees charged by the contractors, the higher the fee charged, the fewer would be the points given here. If the fee, for instance, were 10% of the estimated cost, 90 points would be allowed, but if the fee were 20% only 80 points would be given, etc.

Assuming there were five bidders and that A quoted a 15% fee (equalling 15% of cost); B, 10%; C, 12%; D, 20%, and E, 5%.

In which case:

A	would be	allowed	15%	less than	90	points	or	76	points
B	"	"	10%	"	"	"	"	81	"
C	"	"	12%	"	"	"	"	79	"
D	"	"	20%	"	"	"	"	72	"
E	"	"	5%	"	"	"	"	85	"

8. Plant *Maximum Points Allowed—80*

Under this heading would be considered the plant, tools, workshop facilities, store house of materials, auto tracks, and other facilities available for the prompt and economical carrying out of the work.

The contractor would submit a brief description of such facilities for the intelligent guidance of the architect. As in other possible cases, there would be times when the architect might allow all the different contractors the same number of points, but in other instances there would be a considerable variation.

We will assume that: A is allowed 65 points; B, 50; C, 40; D, 60; and E, 55.

Recapitulation

	Max.	*A*	*B*	*C*	*D*	*E*
1. Reputation	190	160	140	150	180	100
2. Experience	160	150	160	90	100	110
3. Organization	150	150	160	125	90	100
4. Financial Rating	120	100	90	105	80	70
5. Accuracy of Estimate	110	99	102	108	109	106
6. Overhead Expenses	100	92	93	90	85	80
7. Fee	90	76	81	79	72	85
8. Plant	80	65	50	40	60	55
	1000	892	876	787	776	706

From which it is apparent that A would be recommended for the contract.

It is not to be supposed that this system would be ironclad in its application.

It will be noticed that the amount of the fee is put as of less importance than anything else except plant. This is on the theory that a concern with a high reputation would not ask an exorbitant fee. If however it were desired to award a contract to a firm whose fee were too high, it would be possible and in no way improper to discuss the matter and agree upon a fee mutually satisfactory.

In concluding, it may be said that this system of awarding contracts would make for fairness and satisfaction to all persons concerned, not only diminishing fraud by eliminating so much of opportunity for it, but also making everyone feel that essential justice was the aim. Thus the whole morale of the contracting industry would be raised—and in this the public has the most at stake.

The Standard Documents

The Institute has, during the past twenty years, given considerable attention to contract forms, and having finally issued its third edition of the Standard Documents some fours ago, it may well have uttered a sign of relief and satisfaction as it settled down to at least a decade of peace and practical standardization. But a still more inclusive effort to standardize contract forms has recently been inaugurated and has inevitably drawn the Institute into its vortex.

The Associated General Contractors of America, under the leadership of General R. C. Marshall, Jr., its General Manager, recently initiated a conference of national organizations related to the construction industry, for the purpose of discussing the possibility of developing a standard contract form or forms applicable to all types of construction, not merely buildings, but railroads, bridges, docks, highways, and all other types of construction. This meeting was held in Washington on December 15th and 16th and was attended by representatives of the following national organizations:

American Association of State Highway Officials
American Engineering Council
American Institute of Architects
American Railway Engineering Association
American Society of Civil Engineers
American Waterworks Association
Associated General Contractors of America
National Association of Builders Exchanges
Western Society of Engineers

There was presented to this conference a tentative draft of a contract form embodying all general conditions that appeared to be capable of standardization for all types of work and three supplementary forms covering the further general conditions applicable to the building industry, to railroad work and to highway construction, intended for use in each case in conjunction with the general contract form.

The meeting was held at the Department of Commerce Building by the courtesy of this department, which is taking such a practical and helpful interest in all matters

that look to improved methods and elimination of waste in industry. Secretary Hoover opened the Conference with a few words of approval of its purpose and a pledge of the cooperation of his Department in bringing improved methods into effect.

The Institute has helped very materially through its standard Documents to improve contractual relations in the Building Industry, and the constantly growing use of these documents attests their sound construction and their general acceptance.

The American Railway Engineering Association has also adopted a standard form of contract, which, while apparently not used to any great extent verbatim, is accepted as a general guide and is approximated in the contract forms of the principal railways. These appear to be the only national documents in practical use.

The Institute will of course agree that the principles underlying its Standard Documents could with advantage be made applicable to all forms of construction work. There are however some fundamental differences involved in the different types of construction represented at this conference, and as a result different methods of administration have been developed in practice which are logical and at the same time incompatible. The development of a single standard contract document suitable to all types of work involves the overcoming of many such differences.

The Institute can be counted on to cooperate freely in this attempt but it approaches the work without any illusions as to its difficulties. The experience of many years of effort to standardize contract conditions in its own branch of the construction industry furnishes a clear understanding of the complexities of the problem of standardizing procedure for the entire industry. Furthermore, it must move with caution in any effort that appears to involve the substitution of some new forms for those already in such general use in its own branch of the industry. The Building Industry has made definite progress When a further step is taken it is essential that we be sure it is a step in advance. WILLIAM STANLEY PARKER.

Recent Zone and Excess Condemnation Laws in France[1]

It was in France that the first statute of excess condemnation was passed, and in France the latest and broadest statutes for these purposes have recently been enacted.

Excess and zone condemnation, closely related in their development, have had a long history. To this development many countries have contributed. Condemnation may be defined as the regulated taking of property for public use. From time immemorial governments have seized private property; and, more and more as governments became just and free, compensation followed. The regulation of such taking, however, came only with the modern conception of government as the rule of law. In France it first appeared during the revolution; excess, and later zone condemnation followed.

Long before excess and zone condemnation, or even condemnation itself, properly so called, came into being, France was obtaining many of the results of excess and zone condemnation by somewhat different methods. For centuries France has endeavored to make its capital beautiful, and in so doing has seen the need of harmony in the development of public and neighboring private property. A method of obtaining this harmony, early adopted in Paris, was to sell this neighboring land subject to a covenant, entered into by the purchaser to erect buildings on it within a few years, in accordance with plans furnished by the state. In this way Henry IV in 1605 created what is now known as the Place des Vosges in Paris; many other beautiful squares and streets in France and other countries of Europe were planned and constructed under similar contracts.

In 1789 France, in the Declaration of the Rights of Man, laid the foundation for a modern condemnation law by providing that: "Art 17. Property is an inviolable and sacred right; none shall be deprived of it unless a public necessity, legally established, requires it, upon the previous payment of just compensation." For a time taking for public use continued to be arbitrary for lack of statutory regulation, but in 1810 a statute (now superceded by the statute of 1841) was passed setting up the necessary procedure.

The principle of excess condemnation, however, was introduced into the law of France by a statute passed 16 Sept., 1807. That statute (Sec. 53) gives the land owner the right, on payment, to take remnants left by the relocation of street lines which cut him off from the new street, and authorizes the public authorities to expropriate his entire lot if he does not do so. The conditional right given by this statute to the authorities to take land outside the lines of the street, is a limited right of excess condemnation. Excess condemnation, thus made a part of the law of France, has remained so ever since.

For many years excess condemnation, which had meanwhile found a place in the legal systems of other countries in Europe and in the United States, remained undeveloped in France. The movement which resulted in the growth of excess condemnation and the rise of zone condemnation in France originated in the desire of Napoleon III to improve Paris, in consequence of which two statutes were passed in aid one of the sanitation, the other of the beautification of the city.

The statute in aid of the sanitation of Paris was enacted 13 April, 1850. It provides that where the unhealthfulness of a dwelling for hire is the result of causes outside that building, and permanent, or where the causes cannot be removed except by an improvement embracing both dwelling and outside causes, the commune may expropriate the entire property under the general expropriation law of the state. This statute was little used because of its narrow application and because under the general expropriation law the taking of slum property proved altogether too expensive. After one or two abortive amendments, this statute was finally, on 17 June, 1915, repealed and a new statute passed in its place. This statute applies not

[1]This article is taken from a book, shortly to be published by the Macmillan Co., entitled "The Law of City Planning and Zoning." All rights reserved.

merely to property for hire, but to all realty, giving the commune the power to take groups of unsanitary lots, and in addition lots in themselves sanitary, when necessary for the success of the undertaking—a provision copied from the English law. The prodecure in condemnation in such cases is also much simplified, to save time and expense. Most interesting, however, is the provision with regard to the compensation to be paid. The price of the insanitary real estate is fixed at its market value, less the cost of making it sanitary; or, if this cannot be done, at the value of the land cleared of buildings, plus the value of the materials of the buildings. The future use of lots not put to public use, and the conditions subject to which they shall be sold, are also fixed. In no case shall the value put upon a piece of real estate expropriated be less than the value of the land without buildings. In no case shall compensation be increased because dispossession is involuntary. If any tenant deprived of his property is carrying on an offensive industry, under special license, and that industry is the cause of the existing bad sanitation, his damages shall be reduced by a sum equal to the profits obtained at the expense of the public health. This is the first zone condemnation law capable, as interpreted, of effective use, ever passed in France. It is not, however, known in France as a zone condemnation law, that name being applied to the taking of a zone or belt of land outside the line of a new street, which we call excess condemnation. The provision with regard to damages may seem radical to some in this country, but a similar provision is contained in the Dutch Housing Law of 1901, and England, in the amendment of 1919 to her housing laws, has adopted a rule in such cases which is still more severe in its treatment of the owner of slum property.

Broader, however, than the zone condemnation law of 1915, is the later excess condemnation statute. The beginning of the broadening of the right of excess condemnation as it existed in 1807, was the statute, passed by Napoleon III, 26 March, 1852, to aid him in the beautification of Paris. That statute provides that in laying out streets, Paris and such other cities as ask to have the provisions of the statute extended to them, may take the whole of a lot any part of which is within the lines of the new street, if in its opinion the remnant is not of a size or form to permit the erection on it of a sanitary structure. Originally the city itself was the judge of the expediency and propriety of appropriating remnants, but a decree of 27 December, 1858, provided that if the person to be expropriated objected, a decree from the state authorities, holding that taking was for the public interest in the suppression of a remnant too small for proper independent use, was necessary; and on 14 June, 1876 a second decree made the same requirement even if there was no objection to the taking on the part of the owner.

As originally interpreted by the city authorities in their own favor, the law of 1852 gave them a fairly ample authority; and under it large tracts of land were taken on the alleged ground that they were remnants upon which sanitary structures could not be built. In this way, also, the policy of taking land for resale at a profit was followed with some success. It was during this period that practically all the applications by other cities for the extension of the Paris law to them were made. The decisions of the state authorities under the decrees of 1858 and 1876, however, greatly restricted these powers. The maximum size of the remnants that could now be condemned, as compared to those that were formerly taken, became very small, and resale at a profit, never a legal ground for expropriation, became also in practice impossible. In consequence, of late years, a demand for the revision of the statute of 1852 arose, and the law of 10 April, 1912 was passed. Under it, cities could condemn remnants not only when they were not of a size or form permitting the erection of sanitary buildings, but when these buildings would not be in keeping with the importance of the highway on which they would abut, or with the principles of aesthetics; remnants in any case could be taken compulsorily up to 150 square metres in size and whenever the public works occupied more than half the lot; with the consent of the owner, remnants of any size could be acquired. Nevertheless, except for the greater latitude when the owner was willing, the statute of 1912 was merely a meager enlargement of the previous right—all that France, in law ever had possessed—to condemn remnants on the ground that they were not suitable sites for buildings.

The recent statute of excess condemnation, passed 18 Nov., 1918, transforms a power which in France was less than that of most European nations, to one that is greater than that to be found in any other country. Under the new statute "not only the area within the lines of proposed public works but all those areas which are necessary to assure to these works their full value, present or future" may be condemned, including areas outside the lines of a new city street interfering with a rational subdivision into lots or not susceptible of use as the site of buildings in accord with the general plan of the public works, contemplated; and also "land which by reason of its proximity to a proposed public work should increase in value more than 15%." The owner of such land, however, may keep the land by paying a sum equal to the estimated increase. Under such a law, which allows cities to take neighboring land in connection with any public enterprise, for any gain that the city may obtain thereby, without limit as to area and sell any of it that the immediate enterprise does not require, excess condemnation would seem to have attained its greatest possible expansion.

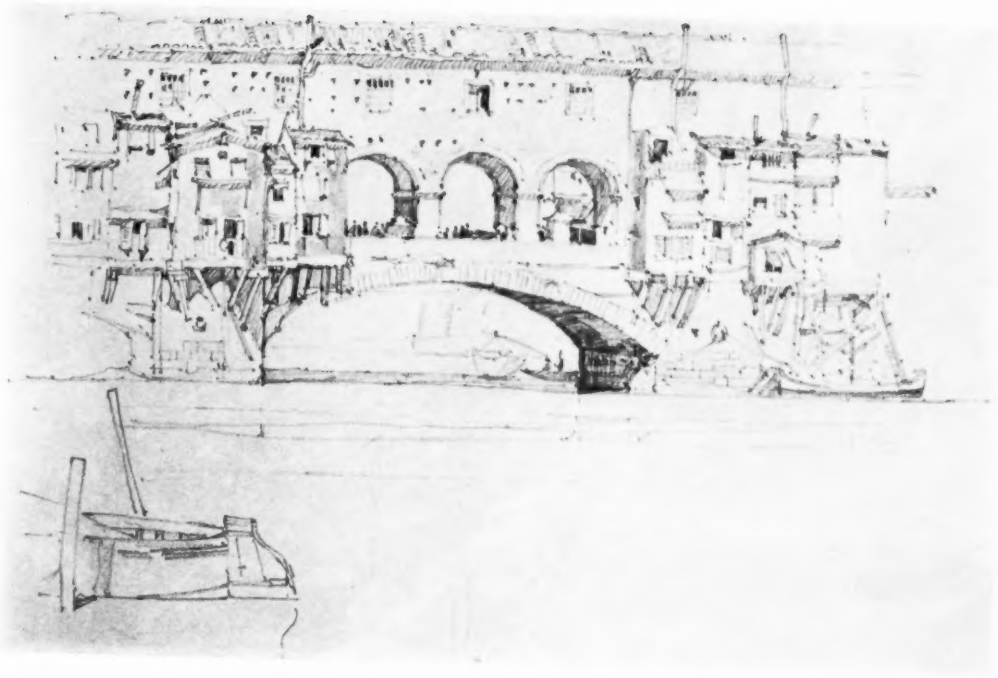
FRANK B. WILLIAMS.

Index and Bound Volumes

Arrangements have been completed for binding the 1921 Volume of THE JOURNAL. Numbers may be sent to THE JOURNAL Office, 313 East 23rd Street, New York City. The prices are: Buckram, $3.50; Half Morocco, $5.25. An Index has been printed and will be sent to subscribers of record on request.

The Next Convention

The date for the next Convention at Chicago has definitely been fixed for 7, 8, 9 June. The headquarters and meeting places will be announced in ample season.



Six Drawings

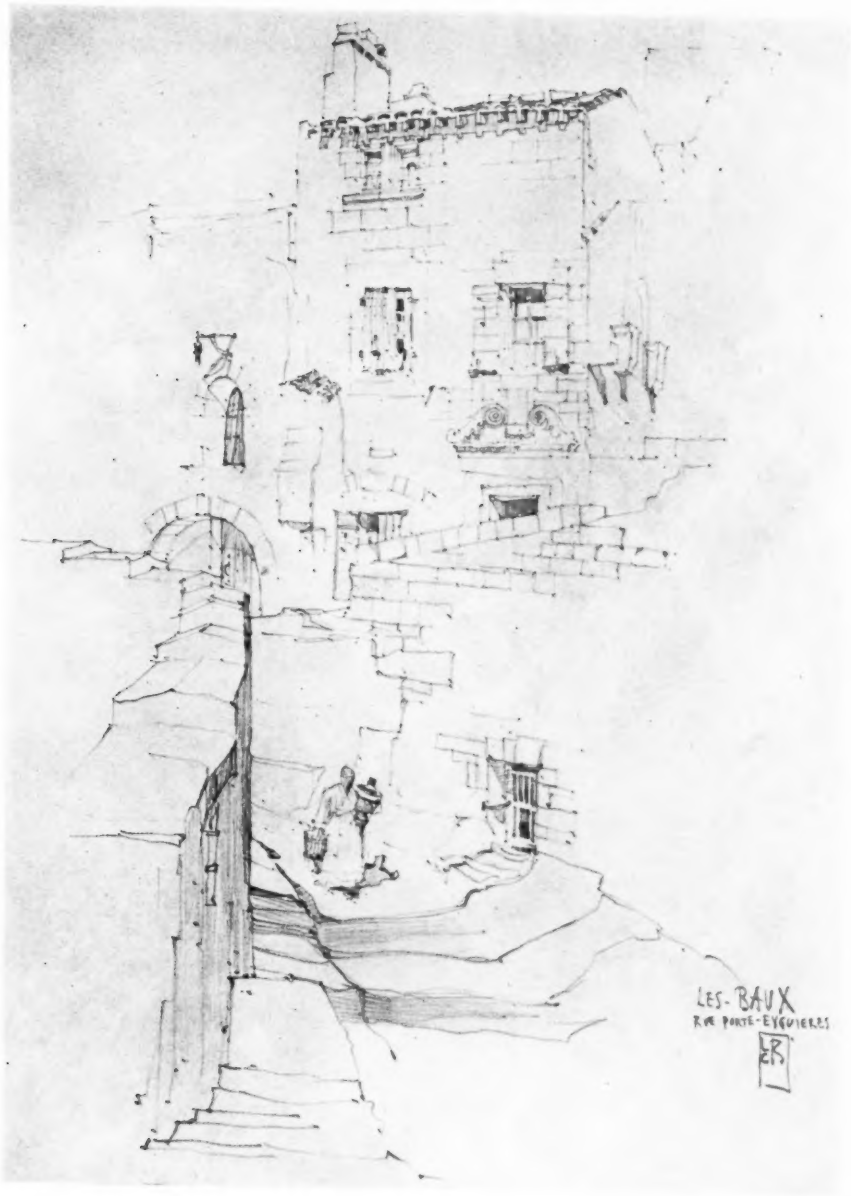
by

Louis C. Rosenberg

Firenze—Ponte Vecchio

PONT DU GARD
Louis C. Rosenberg

MONTICELLO
Louis C. Rosenberg



Les Baux
Louis C. Rosenberg

Reims
Louis C. Rosenberg

ROUEN
RUE DE L'EPICÉRIE
Louis C. Rosenberg

Houses Built tor Factory Operatives

Prettiness and Discomfort—
With Some Sociological Implications

By GEORGIANA GODDARD KING

Photographs by E. H. Lowber

The writer and the photographer, taking a holiday in Central Pennsylvania last summer, and hearing of an Industrial Suburb thereabouts, went out of their way twenty-five miles to visit it. No one in the town seemed to have heard of the thing, but they found at last a group of streets on a hill-side above a factory.

It was very charming. The streets turned and wound, fitting the steepish flank of the hill; with pretty vistas, triangular corners, and curving thoroughfares. The blocks of houses were never twice alike, and among the types of house the difference was great. Some were of plaster, some of brick; and along with the warmish tones of the walls green as well as red entered into the decoration. The colouring was delicious, the effects were quaint, the massing and the forms were satisfying. Anyone would like to live in such a cottage with gay flower boxes; anyone would be lucky to have the chance to live so pleasantly.

When we conversed with a householder rocking on her front porch in a lace cap, and asked leave to go indoors, we learned several things. Some were unforseen and perhaps unavoidable; for some the architect was accountable.

In the first place: the houses were not occupied by the factory workers, but by *impiegati*, not wage-earners but men with small salaries. Whether the rents were too high for operatives from the beginning, or whether the inflow of the other class had automatically raised them, did not appear. In the former case, the architect might be to blame for spending too much; but we doubted it, remembering how the same thing happened in New York when Model Tenements filled up instantly with artists and journalists. It is a pity, for various reasons; it is hard to see how to prevent it, except by building for the other class.

In the second place, the tenants were not pleased. They said the houses were uncomfortable. They are very hard to heat, and impossible to keep cool. The one we inspected thoroughly had a good cellar and furnace, a

A Row of Houses in Central Pennsylvania

kitchen and two other rooms on the ground floor, two bed-rooms and a bath room, with one closet, on the next; and a room in the roof, plastered but not heated. Between the dining-room and the sitting-room there was little wall and no door; nor any partition between the latter and the stairs, which went up directly from the front door. In winter the wind chilled all downstairs and went up to all the bed-rooms. The windows were very small, as indeed the photographs show, and sunken deep in the thick wall; it is a part of the picturesque exterior; in hot weather, as we observed, the bed-rooms were suffocating. In short, while cellar, kitchen and bath were admirable, the planning of the rest was unintelligent.

Apart from the waste of fuel, in setting the front door where at every opening it would blow through the house, the lack of privacy downstairs is a great discomfort. No one could converse without the entire household joining in; the elders if they sat round the dining table were practically in one room with the juniors in the parlour; and neither generation relishes that propinquity. What the lesser *borghesia* does in like circumstances we do not know, for we know that they suffer equally, and that most of the little houses built for renting along the Main Line have the same fault; but the labourer certainly objects. The plan drives youngsters to moving-pictures and dance-halls because they cannot talk privately in the girl's house. That is something to think about.

A Laborer's House in a Row

Thirdly; these houses were not only planned unwisely, the detail was bad. The pretty casement windows were so arranged that no wire netting could be adjusted, inside or outside; this in the Atlantic States! It is possible to have fixtures that accommodate themselves to netting screens. we use them; but the architect was apparently indifferent; He was also indifferent to the woodwork inside, which was entirely incongruous with the style of architecture, and was common sham-carving; very alien to the distinguished good looks of the exteriors. It is such a pity to have wasted a happy invention and a good opportunity, when something really ideal was intended.

Really the hideous labourers' houses of the type here shown are decenter to live in; for the windows are large, the porches are airy and easily netted, and the three bedrooms, kitchen and living-room give privacy, warmth, and ventilation. They are only quite ugly and sordid.

An epilogue may be permitted here. Last winter we found that a patch of vacant lots in our village had been turned into three horrible little streets of tiny houses, without heat except a stove in the cellar and a hole in the dining-room floor, without chimney or gas connection except at the kitchen stove; with back porches so close that opposite neighbours could borrow soap or overhear each other's table-talk. Going over them with the builder, and asking why the end houses, which abutted on a wide, pretty road, should turn only a blank wall to the full south, we were answered: "But if I put in windows at the ends, the houses would not be all alike!" and thereafter (but it was honestly an afterthought), "Then I should need different specifications for them."

This attitude is of course very common and as bad as possible; but where, as in our Industrial Suburb, the situation is as good as possible why could not the achievement be as good as the chance?

The Guilds—Old and New

By STEWART F. CAMPBELL[1]

It is difficult to say whether the motive force that brought into being the Guilds of England, is a direct outcome of the Great War, in the wake of which has followed such an economic disturbance, or whether it is a revival in the minds of men of a spirit of idealism which found its abode in the Guilds of the Middle Ages. Undoubtedly both of these influences have contributed, in no small measure, towards the re-establishment of a system which, in spite of many shortcomings and defects preserved for so long and to so great an extent the highest standards of creative genius in workmanship. In these days when business, like a huge octopus, is thrusting out its arms in an effort to encircle the whole of modern civilization, it is a satisfaction to know that the founders of these modern industrial Guilds have behind them the traditions of hundreds of years of community service, and the development of the Crafts spirit in which the industrial life of the Middle Ages was so completely immersed.

Guild Origins

The origin of the Mediaeval Guilds is a subject of wide divergence of opinion. One belief is that those of the south of France, which are among the earliest, were of Roman or Byzantine origin, and had their derivation in the fraternities of the poorer classes and, during the latter years of the Empire, seemed to have been chiefly concerned with funeral rites and ceremonies. On the other hand, there are others who hold that the guilds were a separate entity, born into the world with little or no association with the past, but because of a necessity which the weak found to unite in a common cause against the industrial evils and abuses to which they had become subjected. Thus it was, that these early craftsmen established themselves, in the different parts of each town, where the Guilds had been started, choosing the location which should best suit each craft, and soon acquired the necessary rights for various sorts of combination as well as permission to regulate their Guilds according to their own dictation.

Ancient Guild Organisation

By no means were all of the merchants or craftsmen in any region united under the Guild System, for during the earlier years, those who lived in the rural districts, not only very rarely had membership in the Guild, but usually knew nothing of this method of organisation, and even in the cities there were many trades that remained outside. Nevertheless, the Guilds enjoyed many privileges and soon became what might well be termed the Aristocracy of Labour.

As in the days of the feudal system when men passed successively from page to esquire, and from esquire to knight, rising step by step from one rank to another to complete their military service and education, a similar process took place in the old Guilds when the applicant was admitted first as apprentice, then passed to journeyman and finally became a master.

In the advancement from one to the other of these grades the Guildsman's time of service was an element, but not one of primary importance, for far more was his progress dependent upon his artisanship. But from the very earliest years mastership tended to become hereditary, and in some of the Guilds this was a fact which became a contributing element in the general decadence of the entire system.

The Mediaeval Guilds had a predominating desire to raise the standard of industrial integrity. The sale of a product was as carefully regulated as its manufacture. We see, for example, that in the Florentine Guilds not only was the "iron ruler" used as a compulsory standard for measuring woollen goods and the most minute directions given for measuring cloth of all kinds, but prescribed methods were observed for filling a bushel with vegetables by placing the arms around the edge of the basket in order to give the fullest good measure.

Secrecy as to the process employed by the various crafts in the Guilds came very early and infinite care was taken to prevent those outside of this very exclusive alliance from approaching on their domain. In 1454 a law was passed in Venice which provided that "If a workman carry into another country any art or craft to the detriment of the Republic, he will be ordered to return; if he disobeys, his nearest relatives will be imprisoned, in order that the solidarity of the family may persuade him to return: if he persists in his disobedience, secret measures will be taken to have him killed wherever he may be."

The Modern Guilds

The story of the formation and development of the Building Guilds has been told at length in THE JOURNAL and it is not necessary for me to supplement the accounts that have been given. These bring the story up to the time of the scheme for the amalgamation of the guilds in one National Guild of Builders and their entrance into the field of building enterprise in open competition with the old contract system.

The more or less revolutionary character of the plans and purposes of the Guild of Builders is one that invites interest. Those who dictate the policy of the system must harness this new idealism to practical operation efficiency if they are to bring about an institution which will be of value to the world at large. If any one supposes that the spirit of Guild idealism and craftsmanship is one that will come in some miraculous way to the Guildsman upon his enrollment, he is doomed to disappointment. It will be done, and only be done, by a process of education the burden of which will be to plant in the mind of the newly enrolled Guildsman, "line upon line, precept upon precept," new ideas which must gradually replace his old conception of the function of organized labour which has come to him as a heritage of the last hundred years.

No one who has given any thought to modern economic conditions, especially as they reveal themselves in the

[1] Mr. Campbell is an American, now living in England, and his observations upon the Building Guilds have the merit of being based upon personal contact and observation.—Editor.

form of unemployment and consequent industrial unrest, can fail to realise that we stand today at the threshold of a new era, so far as labour is concerned, in which it is probable that changes will occur, so far reaching in their influence as to affect the most remote parts of our economic life, and leave their impress upon the commercial and industrial history of the world. Not only are employers alive to this fact, but it is quite evident that, to the building industry in Great Britain a new vision has come; a vision of creative service which has found its expression in the modern Guilds.

It would seem that the great Trade Unions of builders and affiliated trades are awakening to a new conception not only of their rights, but their responsibility for the proper and complete functioning of their constructive powers in relation to organized service to the community, instead of procuring profits for the individual members. This fact, in itself, is one that should come with strong appeal to the best element of the Trades Unions and it should arrest the attention of the finer reasonings and creative impulses of Union men.

The essence of the Guild spirit is to give service rather than to receive it, and in that fact we find a bold challenge to the history and traditions of organized labour during the last century, as in the past, nearly all industrial systems have been organized primarily for the attainment of their rights, while the Guilds of today are based upon an exact sense of duty.

Therefore, the great trial to which the Builders' Guild will be put is whether they will preserve their integrity of purpose and continue to guard jealousy their ideals for the development of the highest type of industrial achievement. The success of the Guilds or their ultimate decadence depends solely upon the workers in the building trades and of their clearness of vision. Seldom has such an opportunity offered itself to any industrial combination as that presented to the Guilds to demonstrate their ability to carry on an industry which shall be entirely controlled and regulated by the workers themselves.

Two questions come into the mind of any one who is studying Guild Systems with a view of obtaining an opinion which shall be both unbiased and impartial.

First: In view of the exigencies of the housing situation in England, will Guild Organization be the means of actually producing more houses than can be produced under contracts where Guild ideals do not exist?

Second: Because of this idealism, will the quality of the work be better by reason of a consciousness, on the part of the Guildsman, of the necessity to give his best efforts to every smallest detail of his job?

The answer to both of these questions I believe I have found by spending some time in careful examination of the houses built under the two London Builders' Guild Contracts, one of which is at Greenwich and the other at Higham Hill, Walthamstow. (Both of these places are within easy access by omnibus from London.)

In regard to the first question as to whether Guild organization is actually able to increase production, the following facts taken by both personal interview and the weekly report of the Manager of the Works, Walthamstow Contract, during the first week in June, 1921, indicate an affirmative answer.

Here, the London Guild of Builders have now built some four hundred houses for the Local Authorities at a cost of approximately £4,500 each. The contract has been divided into two parts which, for the sake of convenience, let us call them part (a) and part (b).

Part (a), representing about two hundred houses, was started on November 1st, 1920. At that time, not a stick or stone which might have been used as material was on the premises, nor had any of the necessary wood-working machinery or brick and concrete moulds been delivered.

Seven months later the following condition was found to apply to part (a) of the contract:

	Houses.		Houses.
Houses practically complete	12	Floors laid	44
In damp course (or 6" above ground)	110	Plastered outside	40
Up to first floor joist	80	Plastered inside	32
Completely roofed in	70	Plumbing finished	20
		Drains laid	48

This was all accomplished in a period of seven months. The number of men employed on this contract as of June 7th was three hundred and forty-five, about half of whom were enrolled Guildsmen.

Guild bricklayers are laying on the average about 520 bricks per day. This, of course, is a rather difficult figure to arrive at with great accuracy, as much depends upon the part of a house the bricklayer is at work. A man working on a chimney-breast, for example, where much fitting and cutting is necessary, will be able to lay fewer bricks per day, by reason of the character of the work, than a man who is working straight outside wall surfaces. Still, the average 520 bricks per day appears to be higher than that produced outside of Guild Contracts. The second half or part (b) of the Contract, representing the erection of an additional 200 houses was begun on June 1st, 1921, and granting them good weather the London Guild of Builders should, on this part of the Contract, equal, if not excel, their former record.

In answer to the second question, as to the quality of the work, it may be said that from time to time, inspections of the work done have been made by the Council, and many outsiders, and the opinion seems to be unanimous that the work is satisfactory and gives evidence of a real understanding of the Guild Spirit of Craftsmanship by the men employed. Though, as has been said before, it is not supposed that this spirit is coming at once to all alike but must come by gradual development.

From the foregoing comparative analysis of the old and new Guild systems, it is at once apparent that, in many instances, the ideals and responsibilities of the two are remarkably similar. If the modern Guildsmen by means of their retrospective powers, keep ever before them the history of their brothers of the Middle Ages, emulating their good example and avoiding the pitfalls which were so costly in former times, they will have done a service to the industrial world that is well worth while.

Is it too much to hope at this time when materialism seems to be shattering so many long-cherished ideals, that after nineteen centuries, the principles of brotherhood and service to mankind taught by the Carpenter of Nazareth may be the guilding inspiration for the re-establishment of Guilds throughout the world?

The Secretary's Table

By The Secretary

The Secretary: We have had a somewhat extended discussion of Convention procedure and we are doubtless confident that the Convention Committee has gained great profit from our discussions. However, as there were opposite opinions on almost every point, perhaps they are not much better off after all, though we may feel reasonably sure that, while they will find it necessary to steer a course of normal compromise, we have marked certain shoals and rocky reefs of individual opinion that they will be glad to avoid.

But it is not alone on account of Conventions that the Secretary must know the pulse of the Institute. The morning mail hardly ever fails to lay before him some problem of the profession on which your combined judgment and advice is needed.

Just now he is concerned with the apparent strong differences of opinion that seem to exist among architects as to the relation that should exist between the architect and the various problems of the industry that are more or less intimately connected with labor organization, or disorganization, in the numerous trades connected with building operations.

Architects have not been active in the past in the settlement of these problems. Should they now take a hand? How do you feel, Mr. Ackerman?

Mr. Ackerman: That is a rather delicate question. One's opinion is very apt to become involved in the matter of one's bread and butter. They say that the matter of bread and butter has been known to deflect even judicial opinion in rare instances.

The Secretary: Yes, and it is my interest in my bread and butter that seems to lead me to the conclusion that it is time for me to get into the game; and it has been a good deal of a cut-throat poker game in the past. The mechanics and their direct employers have dealt the cards, occasionally from the bottom of the pack seemingly, and have played them with such skill as they could command for the purpose of pulling to their side of the board a controlling share of the chips. It has finally become evident, however, that the chips involve, to a very considerable extent, the interests of a third party who has not been holding any cards, or given any opportunity to deal them, or determine the rules of the game. His interests are fundamentally my interests. Why shouldn't I sit in, if only to see that the rules of the game are enforced?

Mr. Stein: I assume that in referring to the problems of the industry which are involved in the various trade agreements between contractors and labor, you mean to imply the whole organization of the industry in as far as labor is concerned.

The Secretary: Exactly.

Mr. Stein: My answer would be emphatically "yes." The architect must take a part. As a part of the industry, he cannot, if he would, sit in his office and turn out drawings with the hope that the builder will take care of the construction. The public employs the architect to produce, not drawings, but buildings; buildings cannot be constructed unless there is cooperation in the industry.

Mr. Ackerman: There is also, of course, the matter of competency. One hesitates to question the competency of the architect to deal with this problem, but it is a factor in the case which cannot be ignored.

Mr. Schmidt: There is no person or body better qualified by experience or otherwise to represent the unorganized investors than the Architect. Inasmuch as the Architects' services are professional, his attitude and viewpoint are impartial and his desires are to serve the public for its best immediate and ultimate interest and welfare.

Mr. Ackerman: It is not exactly a question of his occupying a theoretically ideal position, nor is it exactly a question of integrity. It is merely a matter of looking at the facts of the case. In reality the architect stands on one side, and observes the industrial bouts which take place between laborers and laborers, and between laborers and their employers. Apparently he is willing to referee the bouts between the former; but he prefers a position in the grandstand when the latter clinch. A keen observer noting the applause might draw the conclusion that the grandstand was not exactly neutral.

The Secretary: The clamor of the approving majority should not convict the ever-present silent minority of agreement with the verdict. I wonder if our presence in your grandstand has been dictated by a definitely conscious selfish interest, or has been due to the fact that while we were compelled to be spectators, we were unaware that we had any right to a pass at the stage entrance. Your statement seems to indict the architect of a biased point of view.

Mr. Ackerman: Well, have it so if you like; but I am more charitable. It is a matter of bread and butter. We go in for cleaning up the matter of jurisdictional disputes: none of our immediate interests are involved. But as a rule we do not go in for clearing up the disputes between laborers and their employers. I suspect—of course, I do not know—that the extent to which our interests are involved accounts for our choice in the matter of policy concerning what we do.

The Secretary: Your alternative explanation does seem to suggest a bias due to selfish interest. We are, of course, interested in our bread and butter, but I don't believe that the reason we have kept aloof from these disputes has been from a belief that such aloofness rendered the bread end of living more secure. However, it is not now so much a question of why we have not taken a part in these matters heretofore as of whether we should take an active part in the future. The present situation is about as unstable and unsatisfactory as it well could be. The question is what ought to be done, and can the architectural profession be of help.

Mr. Stein: When we speak of labor agreements, I do not think only of understandings in regard to wages and hours. In as far as disagreement in regard to these may hold up work the architect is, of course, immensely interested; but these are much less important to him than are the agreements that have to do with the development of the industry.

We may produce the foremost architects of the world, both as to knowledge of design or the technique of construction, but they are useless unless we have sufficient craftsmen who are both skilled in their trade and sympathetic to the purposes of the architect. The skilled building trades are quite insufficiently manned even for this period of relatively slight activity.

MR. ACKERMAN: Well, I am not so much concerned, for the moment, with what had best be done as I am with this matter of the competency of the architect to do it. The question is—what will the architect bring to this discussion? What experience has he had which fits him to render a decision in the matter? Does he really understand the nature of the issues involved?

THE SECRETARY: I am wondering if the chances aren't fair that he understands the issues involved at least as well as the mechanics and their employers, the contractors, have understood them, judging from the results of their past negotiations.

MR. DAVIDSON: Our experience in Chicago has shown conclusively that the public cannot rely upon the good faith and fair dealing of either contractors or unions, and as a matter of cold fact it is utterly immaterial to the contractor what the working rules are, or what the wage scale may be fixed at. He, as a contractor, simply figures his job accordingly. Heretofore the public has never been represented or even been consulted, and in my humble opinion, the time has come for a new deal all around, and I do not know of any factor in society that more properly should be called upon to represent the public than the architectural profession. Certainly our supposedly judicial training and trend of thought should equip us to deal fairly with these large questions.

MR. ACKERMAN: I am inclined to think that he is pretty well acquainted with the employer's point of view, but that he is less intimate with the viewpoint of the workman. Taken as a whole, he lives well within that frontier of opinion regarding "labor," and industrial matters which surrounds business men, employers, bankers, financiers, professional men, clerks, artists and dilettanti.

THE SECRETARY: That seems to me inevitable. The architect is and will remain an employer, a director of the labor of others from the top to the bottom of the industry. That however cannot be considered as adequate proof of his inability to participate effectively in the organization of the industry, else we would be forced to admit that no organization of the conflicting elements involved is possible. Doubtless he has the prejudices of his own environment like everyone else, including the laborer.

MR. CARLSON: I think one of the troubles with architecture is the fact that the profession has lived in a world by itself, dreaming dreams that were not true and unwilling to face the hard realities of life. The sooner we get over this the sooner we shall be of use to the community.

MR. ACKERMAN: I agree that he is day-dreaming about this industrial matter. To him "labor" is still an individual, "employer" is also an individual, and from his own view point the relationship between the laborer and the employer is an individual relationship. But as a matter of fact, the laborer as an individual, the employer as an individual and the personal relationship between laborers and employers passed out of existence some hundred and fifty years ago. We are dealing with a situation in which this concept is no more than a myth.

THE SECRETARY: That seems to me a somewhat overdrawn picture. I should say there were few architects in the larger communities to whom that would apply.

MR. ACKERMAN: I admit that there are a goodly number of architects and engineers who do not look at it in this light and who apparently see through the present muddled state of affairs. But taken in the aggregate, judging by Convention Proceedings, articles and editorials in architectural journals, and what we say among ourselves, the profession views the modern laborer and his organizations as something distinctly alien and as disturbing factors in the case; whereas unionism may be viewed as "big business" applied to working.

THE SECRETARY: I think it is the very fact that architects do so view unionism in the building trades that leads them to recognize them, as at present operated, as distinctly disturbing factors in the case, just as they view the various material producing organizations, operating under a highly developed form of big-business, as equally disturbing.

It is not the existence of the unions that architects object to and distrust but the war-fare basis of settlement of disputes that seems to have developed with them. I believe most architects would agree that this was the result of the way they have been organized and administered and the surrounding influences attending their development rather than the inevitable result of their existence.

MR. HOLSMAN: The existence of strikes and lockouts, with their attendant system of intimidation, graft and frightfulness in the building industry, deters the best of us from engaging in building or owning buildings stained by such a hellish spirit of war. Only those who can not work well and prefer to cheat or who enjoy a fight or who are willing to spend much of their time at destructive and submersive practices and little at increasing skill and facility, will eventually be engaged in any industry conducted in such a manner.

MR. ACKERMAN: Well, I hold that labor and labor organizations, are in the nature of effects—consequences. To treat them as the principal causal factors making for the present disturbance in the industrial world is to bark up the wrong tree.

THE SECRETARY: Agreed. There is no question that there are many elements involved and that it is as futile to attempt to assign the chief blame for our present difficulties as to attempt to settle which of the Allies won the World War. There *are* labor unions, and they are potent powers either for good or ill according to how they are treated, and how they function. The question is—should architects become an active factor in organizing the industry or should they retain their old seat on the side lines, or, as Mr. Ackerman would have it, in the grandstand.

MR. SCHMIDT: I am of the opinion that the architect should be active in negotiations for collective bargaining agreements between organized labor and contractors. Obviously such agreements primarily affect the investor more than they do the profit of the contractor, and it is equally obvious that the investors should be represented in matters affecting his investment.

THE SECRETARY: I think that is quite true, but our pity

for the investor may well be tempered by his failure in the past to protect his own fundamental interests. When occasionally he has been faced with a general strike, he has developed quite a deal of class solidarity and has backed up contractors in opposing what they believed to be the oppressive demands of labor. But in days of "guerrilla warfare," when a single building was involved, how often has the contractor's opposition to the demands made upon him been neutralized and defeated by the owner's instructions to settle the strike somehow or other, and get the building built on time.

MR. RANKIN: In my opinion, it is well for the architect, individually and collectively, to steer a straight course with regard to such questions as the closed or open shop. As long as it remains the general custom to erect buildings by contract, labor problems are to my mind matters for the contractor to take care of, and I do not believe he should be hampered by the architect. It seems to me that interference on the part of the architect in questions of the unionism or non-unionism of workers would be somewhat similar to his interference in such matters as their race or religion.

THE SECRETARY: I wonder if there isn't a fundamental difference between the question of union or non-union labor and the question of wages, working-conditions, apprentices, and all the other questions that relate to the quality and productivity of labor and which should apply equally to union or non-union labor. In all those, it seems to me, the architect has a legitimate interest and a right, if not indeed a responsibility, to concern himself. As to the question of dealing with organized or unorganized labor as a means of securing men for a given piece of work, that is part of the administration work of the contractor, and possibly need not concern others. That is perhaps a peculiarly local problem.

MR. ALDEN: Your last statement refers, I think, to a very important matter. The situation I believe is serious. It should have careful study nationally, and as it exists in each locality. I believe a certain responsibility and an important opportunity for usefulness rests with the architect to investigate and take thoughtful action thereon.

Local conditions are so different I feel it is most important that architects in each locality be governed by the condition of the local problem, and be careful in forming opinions as to what should be done in other localities, not basing their opinions on inadequate knowledge of those other conditions which may be very different from their own.

THE SECRETARY: I quite agree with you. It seems to me impossible for us to take any national action. I believe, however, it is entirely reasonable for our local groups to take as decisive action as they may want to in view of local conditions.

MR. ACKERMAN: If all that the architect has to offer is a truce,—that is, a working agreement between employer and worker—between "capital and labor"—then I think that he might as well stay out—because in such a case he will have exactly nothing to contribute.

THE SECRETARY: I hardly think it safe to say in advance what the architect has to offer in the way of a solution. What he should be able to offer is a well trained mind and as disinterested a point of view as can well be found within the industry. That *ought* to be of some help. Otherwise there would seem to be no course except to "let bad enough alone," a rather hopeless and helpless attitude.

MR. ACKERMAN: Well, true enough. Staying out of it will not change the situation, that I frankly admit. And as matters now stand, it looks as if something had better be done soon, so I am willing to have it that it is really best for the architect to go in. If he steps warily, it is likely that going in will do him no harm; and it is certain that it will do no harm to any one else. The experience, however, of going in might count; it might count for a great deal. Those who participate might discover that what we speak of as the "labor problem" is just a little slice out of that problem which the price system has thrust upon the whole of Christendom. I am not sure that he would discover all this tomorrow; but he might learn that the tactics and policies of trade unions are merely characteristic tactics and policies enforced upon everybody by our modern system of credit economy or the price system. That is to say, the architect might discover that, after all, "everybody is doing it"; and this would better fit him to judge. So I say, let's go in.

MR. STEIN: It's only through cooperation in the industry that we are likely to reach a solution of these problems. At the present time of unemployment, it is almost impossible to get sufficient plasterers in the New York region;—the number of apprentices both here and I believe in Philadelphia, is quite inadequate.

THE SECRETARY: The same reports reach us from Los Angeles and England. That situation seems to be world-wide.

MR. STEIN: The building trades have practically no trade schools. If our work is to be properly executed: if when we are really busy again, much of our work is not to be left undone, the members of the profession must be willing to take a part in labor affairs. It seems apparent that without some leadership the industry is not going to be sufficiently manned with skilled workers.

MR. DAVIDSON: The apprenticeship question is a most vital one. In the Chicago territory we find that the average age of building mechanics is over forty years. That few apprentices in any trade are now engaged due to the operation of the by-laws of the various unions.

Today with no building boom in operation, but only a small number of apartments being constructed, practically every building mechanic belonging to the Chicago Building Trades Council is employed. In some lines the demand is greatly in excess of the supply.

The whole subject is very involved, and will require reforms within as well as without union organizations to rehabilitate union labor in the esteem of the building industry.

Is it not possible that if the profession would act as a unit in these matters that it could force the observance of more ethical practice in the industry than has been the rule for many years?

MR. SCHMIDT: The profession has been remiss in holding itself aloof from such negotiations and should consider it a duty to be active and notify organized labor and contractors' organizations of its opinion and insist on being requested to be present at all meetings and represented on all committees which deal with the subject.

MR. LLEWELLYN: Any move which will bring the employer and employee into closer sympathy should be encouraged. The welfare of business is necessary to the welfare of the employee—they go together or should. As I see it, so-called collective bargaining does not recognize individual merit but seeks to impose an equal wage for all men of a class irrespective of relative merit. From my association with workmen, I believe that the great majority would prefer to do an honest day's work and do it in the spirit of true craftsmanship, were they only permitted to do so. I do not believe in collective bargaining as at present understood.

MR. HOLSMAN: Nothing is so fundamental to the economic adjustment of labor problems as that the rank and file of the labor element should be well and truly informed as to the fundamental principles that involve them in their necessary strife for a fair share in the returns from common productivity. Good associations and unions would be a blessing, but bad ones are a terrible curse upon society.

MR. STEIN: The architect is vitally interested in these problems; the success of his work depends on their solution. He cannot stand on the side lines and leave them to be solved by others. It is because I believe this that I am so deeply interested in the success of the Congress of the Building Industry, and in the experiments that are being tried by the Building Guild in Great Britain.

MR. CARLSON: I believe that the architect is first a citizen, and that he should be interested in all civic questions and especially those where his special training gives him an advantage over others in possibilities of service.

THE SECRETARY: It seems to me the Institute has pretty definitely indicated our duty through its inauguration of the Building Congress idea which is now in active operation on both the Atlantic and Pacific coasts and several places in between. It is not a question of the architect intruding himself into the conferences of contractor and labor; it is a question of helping to bring all the various elements of the industry together for a better understanding of each other's problems and so to learn again of each other's real desire to play the game of life decently and according to fair rules, a desire that gets deadened by lack of contact and understanding and the lack of faith in the other fellow that results. There is a vast deal to be done, and the architect should do his share.

Letters to the Editor

COST-PLUS CONTRACTS

SIR:

The article by F. W. Lord entitled "Competitive Bidding on Cost-Plus Contracts" is timely, and touches a problem in which there is a growing interest among those who are responsible for the placing and the carrying out of contracts for construction work. Much prejudice against any cost-plus form of contract has been developed through action taken in connection with war contracts handled on this basis. The actual accomplishments of these war contracts under this system have been blanketed by the smoke screen of criticism by those destroyers of public confidence who are neither able nor interested to give constructive criticism.

The fact that the war work was impossible of accomplishment on any other basis, and that the extent of malfeasance in such contracts was unquestionably relatively small, did not prevent a sweeping condemnation of the cost-plus system of contract. It is time that we took up the gauntlet thrown down by these critics, and entered the lists in opposition to the price system of competition which is responsible for many, if not most, of our present difficulties in the building industry.

I hope that the publication of Mr. Lord's concrete suggestion will lead to comment and contribution from others.

WILLIAM STANLEY PARKER,
Secretary.

THE FEE-PLUS-COST SYSTEM

SIR:

We have read the interesting articles on "Working on Cost Plus Professional Charges" by Mr. Kohn and Mr. Sturgis, appearing in recent numbers of THE JOURNAL. Their scheme of reasoning, we believe, is justly warranted, and we wish to compliment them on the excellency of the articles and for approaching the subject in the public press.

For sometime this office has been advocating the very system of charging fees that Mr. Kohn and Mr. Sturgis propose, but it seems that very few Architects care to turn from the old method, due no doubt to their neglect in keeping accurate costs. In comparing figures given by Mr. Kohn with our own we find a wide divergence, especially in the matter of profit—however, this item is variable and we believe it was necessarily large in 1921 on account of the great amount of factory work done by us.

In the year 1921, our cost rates were as follows:

Average Rate of Overhead per Productive Hour....	1.07½
Average Rate of Draftsmen per Productive Hour...	1.25
Average Cost of Production per Productive Hour..	2.32½

Converting our figures to Mr. Kohn's method of cost finding (that is charging the principal's time directly to a job and loading it with 100% overhead) we get the following result:

Average rate of Overhead Cost per Productive Hour.	.80
Average Rate of Draftsmen Cost per Productive Hour.	1.52
Average Cost of Production per Productive Hour..	2.32

Mr. Kohn's figure of 66⅔% added for overhead to direct cost is in excess of our own, which figures slightly over 52% when we use his method of calculation. Difference in locality, no doubt, would account for this. From a thorough study of his method of calculation we cannot find that his system is essentially different from our own, except as to profit, and we do believe a larger percentage than 33⅓% should be added to the cost of production. Our experience relative to drafting and overhead more nearly approaches Mr. Sturgis's calculations, that is, drafting and overhead are 50–50.

The system of cost finding used in this office was designed by our Mr. H. P. VanArsdall, who recently wrote an article on Cost Accounting for Architects, for the National Association of Cost Accountants, which will shortly appear in pamphlet form. His views regarding the charging of fees are very similar to Mr. Kohn's and Mr. Sturgis's in a marked degree. We are thoroughly concerned in what these gentlemen are doing and will be glad to aid in any way possible to change the unreasonable method of fee charging now employed by the Institute members.

Respectfully,
SAMUEL HANNAFORD & SONS.

HPV-HT

"UNFORTUNATE," SAYS HE!

SIR:

Shortly before Christmas I bought, for one of my draftsmen, a copy of "Colonial Homes" published by David McKay & Co. of Philadelphia and purporting to be an authentic account of the most famous of our colonial houses with illustrations by a Mr. Preston. On looking it over after purchase I found that Mr.

Vernon was depicted as being built of rough field stone. I wrote the publishers a very courteous letter pointing out this mistake, stating that our profession considered Mt. Vernon one of the most perfect of our wooden houses and that if their book was to be of any real value these historical buildings should be shown as they are.

From them I received the following letter which explains itself:

"DEAR SIR:

Your letter of January 4th addressed to the David McKay Company, in reference to the illustration of Mt. Vernon in their publication 'Colonial Homes,' has been handed to me for reply, as I was responsible for the artist who made the pictures for this book.

"The illustrations were not made with any thought to faithfulness to the originals, in so far as the color or material used in their construction is concerned. If you purchased the book having this in mind, it is unfortunate. Mr. Preston has made illustrations for a number of books along this same line, and he has taken liberties with all of them without any thought as to the material used in the construction of the buildings.

"Very truly yours,
THE BECK ENGRAVING COMPANY,
CHARLES W. BECK, JR.,
Secretary and Treasurer."

If such practices are common, as this letter indicates, I think the Institute should step in and notify these people that such practices are immoral if not illegal. Please let me know how you feel about it.

ALFRED GRANGER.

TO THINK—OR TO "REVIEW"

SIR:

In a "Review of Recent Architectural Magazines" in the *American Architect and the Architectural Review*, Mr. Swartwout wonders, in characteristic fashion, "what the little group of earnest thinkers will do next." What will they spread on "the background of pessimistic socialism?" Which is Mr. Swartwout's way of suggesting the character of the A. I. A. JOURNAL and the outlook of the "earnest thinkers."

Precisely what "pessimistic socialism" is I do not know. Changes are not ordinarily launched under the auspices of a dubious outlook. But I take it that the expression refers to a questioning attitude; that apparently is sufficient to characterize it as pessimistic. And no doubt "socialism" is sufficiently accurate as descriptive of a questioning attitude, since to question implies an open mind; and an open mind on matters social and economic (which I believe have some relation to architecture) is socialism. That, I think, is what is meant by the term.

Which suggests that it might not be entirely out of place as contributing to that background to spread thereon the remarks of President Harding as reported in his address before the National Agricultural Conference of 23 January. It is true, he was not speaking in direct reference to architecture; he was speaking in reference to the production and distribution of farm products. But his observations may be recalled, since, after all, he was dealing with production and distribution—a matter quite as much involved in the production and the use of buildings as in the production and use of wheat and cotton:

"The disastrous effects which arise from overproduction are notorious. The Congressional Joint Committee on Agricultural Conditions, in the valuable report which it has recently issued, declares that a deficiency of one-tenth in the production of a particular staple means an increase of three-tenths in the price, while a deficit of two-tenths in production will mean an increase of eight-tenths in the price.

"The converse of this is just as emphatically true. In a recent address to the Congress, I stated this situation thus:

"It is rather shocking to be told, and to have the statement strongly supported, that 9,000,000 bales of cotton, raised on American plantations in a given year, will actually be worth more to the producers than 13,000,000 would have been. Equally shocking is the statement that 700,000,000 bushels of wheat, raised by American farmers, would bring them more money than a billion bushels. Yet these are not exaggerated statements. In a world where there are tens of millions who need food and clothing which they can not get, such a condition is sure to indict the social system which makes it possible."

Had he added shelter to his last sentence, he would have voiced the point of view of the "little group of earnest thinkers." Not that they would have used the term "over production" to describe a normal crop or a normal volume of goods which could not be made use of by tens of millions. They would have been more precise in the choice of words. But there is nothing to be gained by finding fault in the case of such a little matter; for President Harding has summed up the case as viewed by the "little group of earnest thinkers" very neatly indeed. And if he has given voice to thoughts of "pessimistic socialism," it is a pity!

F. L. ACKERMAN.

Obituary

Will A. Stevens

Elected to the Institute in 1918
Died at Chicago, Illinois, 18 December, 1921.

Will A. Stevens was born in 1863, and was graduated from the Cornell University Department of Architecture in 1890. For eleven years he was draughtsman with E. O. Fallis, Architect, of Toledo, and in 1901 entered the firm of D. H. Burnham and Company, remaining with Graham, Anderson, Probst and White until his death. Much of the last five years was spent in Toronto as manager of their Canadian office. Most of his work was consummated in his home town in Huntington, Indiana. Here he was the architect of the Presbyterian Church, the Reformed Church, and the Huntington Light and Fuel Company's office building. He was engaged at the time of his death on plans for the Hotel La Fontaine, to be erected in Huntington.

Austin W. Lord

Elected to the Institute in 1901; to Fellowship in 1903
Died at New York City, 26 January, 1922

(Further notice later.)

Evarts Tracy

Elected to the Institute in 1909
Died at Paris, France, 1 February, 1922

(Further notice later.)

Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

Current Notes

Zoning and Excess Condemnation in France

Attention is called to the article on zoning and excess condemnation law in France, in this issue. It is one chapter from a book on City Planning by Frank Backus Williams, long associated with the legal phases of city planning in the United States.

Housing in Louisiana

The report of the Louisiana Housing Commission of which Moise H. Goldstein, a member of the Committee on Community Panning is secretary, has submitted to the state legislature the following recommendations in regard to the housing situation in Louisiana:

1. Appointment of City Committees on Housing.
2. And the election from these bodies of a State Committee on Housing.
3. Local Committees to act as an Arbitration Board on rents.
4. The passage of enactments granting partial exemption from taxation by cities, as permitted by the new Constitution.
5. Revising and standardizing Building Codes.
6. Incorporating sanitary and tenement house regulations in Building Codes.
7. The study and adoption by cities of a "City Plan"—and "Zoning" ordinances.
8 Improvment in planning small houses and group planning in congested districts.
9. Extending time of eviction notices to tenants (except for non-payment of rent).
10. Co-operative efforts in the building industry to reduce cost of construction and the teaching of trades in the primary grades of the Public Schools, to reduce inefficiency in the trades.
11. Encouragement of investment in Homestead Stock to enlarge this most important and serviceable home-building agency.

Also, that the Governor provide for the study and improvement of housing by the appointment of a committee of Five for each City of the State with a population of over ten thousand. The members shall serve without compensation.

A Definition of Garden Cities

In a memorandum drafted by the Garden Cities and Town Planning Association, recently, the following was determined as the definition of Garden Cities:

1. The creation and development of garden cities is required.
   (*a*) to overcome the shortage of houses on a large scale;
   (*b*) to supply better equipped sites for industry and provide improved factory conditions;
   (*c*) to relieve the industrial congestion and traffic difficulties of London and other large centres, and avoid the waste of time and social disadvantages of the daily journeys by masses of the population and the resulting separation from home life;
   (*d*) to bring agriculture and town development into closer relation and increase the food supply of the country.
2. Garden cities are to be understood as self-contained towns, each with
   (*a*) a town centre;
   (*b*) an industrial area;
   (*c*) a residential area;
   (*d*) an agricultural belt.
3. It is an essential element in the financial basis of the garden city that the whole of the land should be either in public ownership or held in trust for the community. The control of land values which this form of ownership gives provides the superior economic advantage of the garden city to that of all other towns.
4. The sites for garden cities could be found:
   (*a*) in rural districts a clear distance of from five to thirty miles from large towns;
   (*b*) as a development of existing villages or small urban districts;
   (*c*) in areas adjacent to new electric power stations and in new industrial, port and mining areas.
5. The means required to carry out workable schemes are:
   (*a*) statutory recognition of garden city enterprises;
   (*b*) acquisition of land at agricultural value;
   (*c*) suitable forms of local organizations;
   (*d*) finance.
6. Statutory recognition of garden cities has already been given in the Housing Additional (Powers) Act, 1919 (Sec. 10), and the Housing Act, 1921 (Sec. 7), but further powers, which are set out in the draft Garden Cities General Powers Bill, printed here, p. 269, would greatly facilitate development.
7. The land should be acquired by the State by means of a rent charge. as in the case of land settlements, or by the issue of land bonds to the owners, avoiding the necessity for raising a large amount of capital. The land should be on a good line of railway and a main highway, and it is important that it should be a site which could be made into an industrial and commercial centre.
8. In order to provide for official business management and to carry schemes out free from bureaucratic delay:
   (*a*) a special corporation should be formed under the Companies Acts, or by Act of Parliament, to act as a central body to initiate and supervise the carrying out of local schemes. This body should act under Treasury regulations and should be appointed by the Treasury, the Ministry of Health, and perhaps other Government Departments but should not consist of members of Government Departments;
   (*b*) local companies should be formed under the Companies Acts to prepare and execute schemes and to raise capital for specific garden cities. By this means private initiative and enterprise would be encouraged, local interest secured, and the danger of stereotyped schemes avoided. The local company to be supervised by the Central Corporation, and the Board of Management to contain representatives of the County Council and the local authority.
9. The capital required for the purchase of land, the construction of roads, drainage, water supply, and other works of development to be raised by the local companies on a State guarantee of interest and principal to be secured through the Central Corporation. The Central Corporation to be allowed to issue capital on a similar guarantee for lending to local companies.
10. The garden city companies in each case would be primarily concerned with the planning of the towns, their development and management. Houses for the working classes could be built either by the Company or by the Local Authorities, Public Utility Societies, or other bodies under whatever national scheme was in operation.

English Housing Progress

The Garden Cities and Town Planning Magazine announces the following in connection with English housing:

We are informed by the Ministry of Health that the position

on December 9th, 1921, with regard to the building of houses under the National Housing Scheme, was as follows:

Tenders for 165,000 houses have been approved.
Contracts signed for 159,400 houses.
Houses commenced, 141,500.
Houses completed, 70,110.

It will be observed that these figures are unchanged from those given in our last issue, except that the number of houses completed shows an increase of 8,000.

The position with regard to public utility societies is unchanged.

From Our Book Shelf

Infinitum

It is impossible to travel through any section of France, especially its provinces richest in history and tradition, without coming upon many surprising and delightful architectural groups and fragments In "Small French Buildings" (Scribner's), Messrs. Lewis A. Coffin, Jr., Henry M. Polhemus and Addison F. Worthington have assembled a goodly number of examples of such work, many of them of striking picturesqueness and charm. Beyond this modest accomplishment, however, they have achieved little worthy of note.

The book possesses neither plan nor arrangement, save of the sketchiest variety. It is but one more of those "scrap-books" which are born in alarming number of the too-efficient presses of our facile publishers, defying strikes and strikers, and which breed their legion of incompetent practitioners, those ingenious devisers of the pasteboard doll's house for young married couples, chief adornment of our suburbs. It speaks knowingly of "masses" and "composition" and "detail," but it fails to touch upon the reality of which this architecture is but the outward shell—the peasant life of France—which has been, and still is, its real beauty and vitality, and has enabled it to weather many storms, including the latest and greatest of them all. Some qualification, however, is necessary. Mention is made of "songs and laughter,"—important elements of life, indeed, but what of the patience, the will to endure, to build permanently in defiance of time's inevitable ravages, of which the minor architecture of France is so legible an expression? Might we not learn more in our haste, we who are devoted to quick success, to the "good-enough" that stops a small gap in the long span of time, if we paused to consider the spirit that inspired the builders of these small houses, rather than to gaze on gable ends and chimney-pots? You may ask whether such things are any part of architecture—perhaps not, but without them good architecture is impossible.

As technical criticism of the work one might well ask why, in several instances, views of the same building, under the same chapter heading, are separated by many pages—vide "Manor at Arqus la Bataille" (plates 97 and 156), and "Farmhouse near St. Cyprien" (plates 81 and 146). There may be other instances. Furthermore, the individual subjects are inadequately treated, the only two plans given are incomprehensible, and it is impossible to make a serious study of any building presented.

As the text is quite superfluous no further mention need be made of it.

"The Books!"—With what reverence we utter those two syllables in this country dedicated to universal education. One more has been added to their number.—G. H.

Inspirational

The friends of a man who evidently possessed an engaging and endearing personality, a man who was interesting enough to have immensely interested so keen a student of human nature as Arnold Bennett, have made a collection of E. A. Rickards' architectural designs, sketches of detail, outdoor sketches in pencil and pen and ink and in water color and of his amusing and extremely clever caricatures; many of the aquarelles are excellently reproduced in color.[1]

The collection, to one not acquainted with the man himself, indicates a genial versatility, stronger by far on the side of presentation, on the lighter and what one must, perhaps a trifle portentously, call the less "serious" side, than in the larger qualities of design. Rickards' work in architecture has most of the faults of the modern English school, weighed down as it is by the burden of the Palladian tradition, the influence of the late sixteenth century in Italy, with a dash of what Wren brought back with him and translated into English from the work that was going on in Paris in his day, and to which he had the genius to give a strong personal accent. As a draughtsman Rickards renders these compositions with gusto, overladen though they be with rustifications and pilasters and square domes and the usual lumber of most modern English design.

The caricatures and the water colors are distinctly the most amusing items of the collection; the latter are painter-like in their choice of subject and in their broad craftsmanship; one feels in them the joyous escape of the architectural draughtsman from the trammels of composition and rendition in right lines. One may imagine his doing them with the glad cry "To Hell with the T-square." The caricatures cut thick and fat with an unctuous humor and an extraordinary grasp of the essential line.

The book falls into the category of inspirational books like Walcot's etchings and water colors, which are far more necessary to an office library than collections of "useful" plates—useful meaning something that might, could, would or should be cribbed.

H. Van Buren Magonigle.

Shorter Notes

Early in the nineteenth century numerous books were published with such names as "The Carpenter's New Guide." "A Guide for the Builder and Architect," "A Treatise on the Five Orders with a Complete Book of Lines for the Carpenter and Joiner." They usually contained some practical geometry, something on the strength of materials, some elementary material on shades and shadows and perspective. They were a composite of an embryo of Vignola, Kidder and a correspondence school encyclopedia of building and construction, but withal they were delightful books, the older ones on hand-made paper and with engraved illustrations. I still treasure three of them in my library not because they are particularly useful, but because they are quaint and good to look upon and

[1] "The Art of E. A. Rickards." Comprising a collection of his Architectural Drawings, Paintings and Sketches, with a Personal Sketch by Arnold Bennett, an Appreciation by H. V. Lanchester and Technical Notes by Amor Fenn. Technical Journals, Ltd., London, 1920.

to handle. Now comes this modern[1] book covering about the same field, unattractive in typography, illustrations and make-up—not mathematical enough for the mathematician but certainly too much so for the builder, the American builder I mean, for conditions may be different in England and this is an English book. The book is one of the D-U Technical Series, D-U meaning directly useful. It does not seem to me to fill any American want, the information in its gathering of abridged text-books is much better available in other forms.

Books are sometimes of intimate kin. Here are two well printed and lavishly illustrated.[2] Both contain much material descriptive of that best in English work of which we in America are so fond and so admire, and both contain much about which we care very little. In both there is abundant, valuable, historical matter. The illustrations are not only plentiful but excellent in quality and presentation. "The English Interior" seems the better book for study; it is logically arranged for the architect. There are four general divisions: "Tudor and Early Stuart Interiors"; "Late Stuart Interiors"; "Georgian Interiors"; "Principal Features of all Periods in Detail." There are ninety-five quarto size page plates and many text cuts.

"English Homes" (Vol. I) covers the late Stuart period only, but includes exteriors and gardens as well as interiors. Its illustrations are likewise numerous and of excellent quality, and the text is quite illuminating. It is difficult to decide which book one would rather have, the right decision would probably be that one would rather have both, although it might be difficult just now to find many architects who could afford even one.

The text matter of this recent work[3] on Westminster Abbey is contained in but a few pages and is composed mostly of historical notes on the Abbey itself and the monuments it houses. Of greater interest, however, are the one hundred and fifty-two large phototype—I think we should call them photogravure—plates. As photographs, these are technically perfect and they seem to cover every detail. Why some of these details are illustrated, we are not quite sure, yet as a whole the book is one of great beauty. The edition is limited to four hundred copies.

Here is an extremely interesting little book on the subject containing 134 fairly good illustrations.[4] It is an unpretentious and inexpensive volume, but comprehensive and useful. It should prove interesting to designers and architects and to laymen desiring some knowledge of the great Italian period. The text, which is well supplemented by the illustrations, covers briefly the history and characteristics of various articles of furniture in Florence, Tuscany, Venice, The Mainland and The Northwest of Italy. The book deserves a place in every designer's library for its own sake as well as an introduction to the study of the more pretentious and voluminous works on the subject.

B. J. L.

1"Practical Geometry for Builders and Architects." By J. E. Paynter. Chapman and Hall, Ltd., London.

2"English Homes—Period IV—Vol. I. Late Stuart 1649–1714." By H. Avray Tipping. Country Life, London. Chas. Scribner's Sons. New York.

"The English Interior." By Arthur Stratton, Architect. B. T. Batsford, London. Chas. Scribner's Sons, New York.

3"Westminster Abbey and St. Marget's Church." Volumes I and II, bound together. Historical and Descriptive Preface by Albert Edward Bullock, A. R. I. B. A. J. Tiranti & Co., London.

4"Italian Renaissance Furniture." By Wilhelm von Bode, translated by Mary E. Herrick. William Helburn, Inc., New York.

News Notes

A VERY notable affair was the dinner tendered to Mr. Ernest J. Russell, of Mauran, Russell & Crowell, on 19 January last, in recognition of his long and devoted service as Chairman of the City Planning Commission. Four hundred citizens, from all ranks of life, sat down to express their appreciation of Mr. Russell's faithful contribution to the better development of St. Louis.

SAMUEL Hannaford & Sons announce their removal from the Hulbert Block, where they have been for 32 years, to the Dixie Terminal Building, Cincinnati.

APPARENTLY the old New York City post office is to be demolished and the site be restored as a part of the old park from which it was once borrowed. The House Committee on Public Buildings and Grounds has reported favorably the bill of Representative Rosedale of the Bronx authorizing the appointment of a Committee to conduct the negotiations with the city of New York.

PHILADELPHIA Chapter, discussing the question of delegate representations to Conventions, voted unanimously to appropriate nothing toward the expenses of delegates this year but that the Institute refund, when received, be distributed pro rata among the delegates.

THE first annual architectural exhibition of the Iowa Chapter closed on 28 January. It was held in the galleries of the Des Moines Public Library and enjoyed the cooperation of the Fine Arts Association.

CLEVELAND Chapter resolved, at its last meeting, that "owing to changed conditions since the beginning of the work on the Criminal Courts and Jail Building, and also to the fact that the public has declined to furnish funds for carrying out the plans suggested by the County Building Commission, the Chapter thinks it wise to have a thorough investigation and report made by a disinterested committee as to the requirements of the city and the county for the Criminal Courts and Jail, before the commission again presents to the public a bond issue for the amount of money required to carry out the work in accordance with the present plans."

LOUIS C. ROSENBERG, one of whose sketches are reproduced in this issue, is well known to our readers. Other sketches of his were printed last year and more are to come. Mr. Rosenberg is in Europe under a scholarship from the Massachusetts Institute of Technology, having at one time been connected with the School of Architecture at the University of Oregon.

Nebraska Chapter has been informed of an apparent construction which in that State is placed upon the Institute's subdivision of the Schedule of Charges, in that under Nebraska law, were the Institute schedule not referred to, a contract for architectural services would be enforceable, in case of abandoned work, to the extent of the whole fee less the cost of completing the unrendered service. Counsel has been employed to prepare a contract that will protect the architect in his rights under Nebraska law.

To the new Indiana Chapter there have been transferred from the Illinois Chapter, the following: E. R. Austin, G. W. Allen, O. D. Bohlen, H. L. Bass, F. S. Cannon, R. F. Daggett, H. W. Foltz, J. W. Gaddis, M. Harrison, A. B. Hinywell, W. E. Russ, D'A. B. Shourds, E. H. Turnock, Byron De Witt Day.

To the new Central Illinois Chapter there have been transferred from the Illionis Chapter Messrs. G. H. Davis, W. W. Day, F. N. Emerson, H. E. Hewitt, B. L. Hulsebus, C. W. Bullard, M. H. Whitmeyer.

FROM information at hand it seems apparent that a new Chapter in New York State, to be known as the WESTCHESTER Chapter, will shortly be announced.

A memorandum presented to the Illinois Chapter by Mr. Holabird, in which was pointed out the effect that the Fordney Tariff Law would have in increasing the price of imported architectural books, has been made the basis of Chapter representation to Senators in Congress.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*
LEROY E. KERN, *Assistant*

In connection with the work of the Committee on Structural Service of the American Institute of Architects and in collaboration with other professional societies and organized bodies having the same objective—improvement in building materials and methods and better shelter for humanity in all its manifold vocations and avocations.

Abstracts

It is the purpose of the Structural Service Committee and THE JOURNAL *jointly to give in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus afford architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

A Tentative Specification for Concrete and Reinforced Concrete. (4).—In 1916 the American Concrete Institute, the American Society for Testing Materials, the American Society of Civil Engineers, the American Railway Engineering Association and the Portland Cement Association organized a "Joint Committee" to draft specifications for concrete and reinforced concrete.

The work of this Joint Committee was interrupted by the war, but during the last year a tentative draft of this specification has been prepared and printed. This draft was submitted for discussion and criticism to a representative meeting of the Civil Engineers on Dec. 8th and 9th at the United Engineering Building, New York City.

In the course of the discussion, the members of the Committee explained the provisions of the proposed specifications, when it became apparent that the intent was not clear, but the Committee made no attempt to defend its work and resisted all attempts to cross swords with its critics. The meeting, in reality, was a sort of probing expedition by the Committee. The proposed specification was held up to be shot at and the hits recorded for the benefit of the Committee in its future work. In view of the rough treatment the specification received at the hand of the large number of critics, it will be interesting to see how closely the revised document resembles this first draft.

One question which was put repeatedly but not answered by the Committee, related to the status of the finished document. Was it to be a standard specification; and if so, how would it be promulgated? Or was it to be issued merely as recommended practice? Or again, was it to be published as a handbook, a reference work on concrete engineering practices?

If the Committee has any purpose in this regard, that purpose was not revealed. The draft under discussion deals with the raw materials, proportioning, mixing, placing, forms, reinforcements, design, inspection and tests. It is a most comprehensive and exhaustive document, and altogether the most ambitious and creditable effort that has yet been made at specification standardization in the construction industry.

While it has only reached a tentative stage in its development, the whole matter is of very great importance and interest to the architect. We can not here publish the lengthy document in question or even a brief resume of it, but to give the architectural profession some small idea of its character and the kind of criticism that was leveled at it, we publish below—and are fortunate in being able to publish it—a brief discussion by an eminent engineer who sat through the meeting and whose voice was frequently heard in the discussion. The following comments were prepared for THE JOURNAL by Mr. Elwyn E. Seelye, New York.

"There are a good many reasons, it seems to me, why the American Institute of Architects should be represented on this Joint Committee on Standard Specifications for Concrete and Reinforced Concrete.[1] The architect is the largest purchasing agent of reinforced concrete in the country. He knows, as Mr. Jones pointed out in the discussion, that increasing the size of a concrete column not only increases the cost of the work, but also, which is of greater importance, it decreases the yieldable floor area in a commercial building.

The architect is the sole superintendent of an enormous quantity of miscellaneous concrete construction, large and small, and it is very necessary that the specifications he uses be explicit and practicable in so far, at least, as they define and describe methods of construction. He knows, if anyone does, how easy it is to theorize on practice and how difficult it is to practice theory in the hurried indifferent building world.

The architect is particularly well qualified, through experience and interest, to contribute advice on the use of decorative finishes, floor treatments, waterproofing, dampproofing and chemical admixtures.

Effect on Cost.—Structural engineers and architects who are at all familiar with tests of reinforced concrete construction, would be well satisfied with the safety factor obtained under present practice in design and methods of construction, if there were some assurance that this safety factor would not be reduced or eliminated by the abuses.

Architects like engineers are vitally interested in the specification as an agency for reconciling economy and safety and as the means of insuring both. Specifications as drafted by the Joint Committee materially increase the cost of reinforced concrete construction. If adopted in their present form, the construction of the fireproof school, for instance, may be deferred, because the difference in cost between the reinforced concrete school structure and the frame school will have been stretched beyond the elastic limit of appropriation. This increase in cost is due mainly to the fact that what is now considered good concrete design is discarded under the proposed specifications because of the higher work stress therein provided for. A flat slab design under the new specification will contain more concrete than is required under the Chicago law, and considerably more than the same slab design in accordance with New York City ordinance. Columns also will be generally larger, especially those of the spiral hooped type.

Abuses Common in Concrete Construction.—The real test for adequacy of any proposed specification for concrete, is the extent to which it eliminates present abuses of the material, or at least puts the superintendent on his guard against them. The specifications in question do not give such warning in realtion to many present abuses which are the causes of defects and even failures. Such warnings are not always properly a part of the specification, but in a document of this kind, especially if it is to be a reference work on recommended standard practice, which modifies present practice, and in some cases suggests radical departures, certainly there should be explanatory notes or stated reasons. To make this more specific, the writer will attempt to enumerate some of the most common causes of defects and briefly point out in connection with them the deficiencies of the proposed specifications.

Form Design.—The specification contains some excellent generalities in regard to form design but it does not bring out the fact

[1]The American Institute of Architects was invited to cooperate in the work of this Committee. But at the time the Committee was organized, the Institute had no Committee on Structural Service, and no Agency for carrying on such cooperative work. The Institute therefore found itself in a position where it had to decline the invitation.

that form design cannot always be safely left in the hands of the practical man. Safe form design involves a knowledge of the theory of hydraulic pressure, long column action, strength of materials and dead load computation.

Hardening Concrete.—In the case of a building collapse caused by the concrete not having hardened sufficiently to bear its load, we naturally look to the specification for proportioning, mixing and placing of concrete. The proposed specifications are adequate, but not sufficiently clear and practicable. The usual causes for concrete not hardening properly are: insufficient quantity of cement, defective cement, the presence of impurities in the fine aggregate, and freezing.

The specifications cover the amount of cement to be used, but do not touch on practical methods of measuring the aggregate. The prevailing method, on small jobs, of measuring by wheel barrows is neither accepted nor definitely rejected. General recommendations are made in regard to forbidding the presence of deleterious material in the fine aggregate, but the recommendations are too technical and would mean nothing to a contractor or architect's superintendent if such specifications, as they stand, were incorporated in the architect's specification. The recommendations in regard to protection of concrete in freezing weather are good but so rigorous that they will be difficult to enforce.

The writer believes that forbidding the use of all set accelerators will work an injury on the concrete industry. There is authoritative data that indicates that calcium chloride is not injurious to reinforcing steel where the concrete is not exposed to moisture and that it may not be injurious even where it is so exposed. Calcium Chloride products not only lower the freezing point of concrete but also accelerate the set, thereby reducing the length of time that the forms must be kept in place.

Corrosion of Steel.—The specifications, in regard to sea water, cover this phase of work in accordance with our best present knowledge. The writer, however, suggests an investigation of the use of galvanized steel.

Faulty Floor Surfacing.—This important subject is covered in a very meagre fashion. Nothing is said about floor hardeners, and other materials for rendering a floor dustproof, waterproof and increasing its resistance to wear. Nor is anything said about paints for coloring purposes. The subject of chemical products is one in connection with which definite information is very much needed. At the present time both the architect and the engineer are very largely dependent upon manufacturer's claims.

Defective Reinforcing Steel.—Cases of high carbon and intermediate grade steel bars being weakened at the bends have been frequent and it is questionable if the minimum radius of bending should not be specified. The reliability of "re-rolled" steel is a question of common apprehension. It was brought out in the discussion that this grade undergoes a heat treatment and hence is safe from crystalization or defects developed by wear. It is also made originally under the most rigid specifications and is free from pipes or segregation sometimes found in new billet steel. The Committee does not explain why it reduced the working stress for this material below that of new billet high carbon steel.

Waterproofing.—The writer criticises the Committee's ruling that integral compounds shall not be used, without presenting any of the data upon which they rejected this whole class of materials. Integral water proofing is in very wide general use and there appears to be considerable difference of opinion among engineers as to its efficiency. The engineering and architectural professions, therefore, could not reasonably be expected to accept, without proof, a definite ruling, prohibiting the use of all integral compounds.

The plaster coat method of waterproofing does not appear to have been recognized and yet it is in very general and successful use. It has an advantage over the membrane method in that leaks are more easily located and remedied, and there are special cases where it would be impractical to attempt to use the membrane method."

Whiting. (25a). (*U. S. Geological Survey. "Stone in 1918" by G. F. Loughlin and A. T. Coons.*) On account of war restrictions the use of pulverized marble and limestone as a substitute for imported whiting or chalk largely increased.

Consumers of imported whiting claimed that it was "amorphous"—a term which, to judge from microscopic examination, implied extremely fine crystalline particles accompanied by colloidal matter—whereas domestic whitings were "crystalline" that is, of coarser grain and deficient in colloidal matter. Some domestic producers in 1918, however, claimed to be producing material of excellent physical properties, including pure white color, economical absorption of oil, good stretching power (in putty), and ability to take up more marble dust than English whiting. The increased use of domestic whiting tends to confirm these claims, although full confirmation will depend upon the demand after the removal of restrictions on imports.

A few producers have been very secret about their raw material and process of manufacture, but others have been very willing to give any information requested. That made as a by-product from the pure white marble of the Georgia Marble Co., at Tate, Ga., contains between 98 and 99 per cent of calcium carbonate, the remainder being chiefly lime-magnesia silicate. The finest grade produced passes 100 per cent through a screen of 300 meshes to the inch and was used in 1918 chiefly as a rubber filler. In contrast to this, whiting manufactured by the Metro-nite Co., Milwaukee, Wis., contains 44.62 per cent of calcium carbonate, 35.65 per cent of magnesium carbonate, 19.58 per cent of calcium-magesium silicate, and 0.15 per cent of moisture. Its finest grade will pass 100 per cent through a 225 mesh screen. Domestic whiting manufactured by P. W. Nelson (Inc.), Brooklyn, N. Y., contains 98.50 per cent of calcium carbonate, 0.10 per cent of magnesium carbonate, 0.18 per cent of silica, 0.79 per cent of iron oxides, 0.02 per cent of alumina, and 0.07 per cent of organic matter.

The requirements of whiting for most uses depend on its physical properties, chiefly color, extreme fineness of grain, and the presence of considerable colloidal matter, but no exact specifications for any use except in the ceramic industries have been reported to the Survey. According to P. H. Bates, of the Bureau of Standards, whiting for the ceramic industries must be very low in iron oxides, preferably not more than 0.05 per cent; its content of calcium carbonate should be about 99 per cent, although it may be as low as 98 per cent if the impurities are only silica and alumina; it must be very fine grained so that practically 100 per cent will pass a 150-mesh sieve. The fineness of whiting must be such that it will not settle instantaneously in water, but that part of it, about 30 per cent, will remain suspended for some time. The chemical requirements will rule out most of the limestones and even some of the white marbles of this country, but some of the white marbles of Vermont, which have proved suitable for the manufacture of optical glass, and some from Georgia and Alabama, are quite satisfactory in chemical composition.

Mr. Bates also states that it is perfectly possible to prepare whiting from marble if the grinding is carried far enough and conducted with wet material. Perfectly satisfactory material has been produced in this way at the Bureau of Standards. Cost and care to reduce the material to suitable fineness without introducing impurities, particularly iron oxide, are the determining features.

Chemically precipitated calcium carbonate has also been suggested as a substitute for English whiting. Considerable quantities of such calcium carbonate have been made as a by-product from the manufacture of basic magnesium car-

bonate, but, at least prior to the war, the cost of drying it and keeping it free from impurities has prevented its competition for the whiting market. It doubtless contains considerable colloidal matter; in fact, one manufacturer stated that its absorption of oil, caused probably by the colloidal matter, was too high. A mixture of this chemically precipitated calcium carbonate with finely ground marble, however, should closely approximate English whiting in physical and chemical properties.

Structural Slate. (22b)—(*U. S. Geological Survey. Slate in 1920 by G. F. Loughlin and A. T. Coons. Size 6" x 9". Pages 8.*)—While the purpose of this publication is primarily to give tables of production and consumption of slate the following quotation from a general description of conditions in the industry is of especial interest.

"The slate quarrymen realize more and more that much of the success of their business, especially in structural slate, lies in the standardization of the sizes of the products. The method of procedure usually followed has been to quarry and prepare structural slate in sizes specified by builders and architects. The lack of uniformity in design or size prevents the production of material in advance. This condition has led to enforced unemployment in mills and quarries and in serious delays to builders, as the slate quarries can not always produce stock at the time orders are received. To improve these conditions the Structural Slate Co., of Pen Argyl, Pa., which represents several producers of structural slate in the Pennsylvania district, has, through the Structural Service Bureau, proposed standard specifications for structural slate products and has issued illustrated pamphlets showing sizes and shapes of standard parts for structural work. It is hoped that the acceptance of these specifications by associations of architects and builders will aid materially in stabilizing the slate industry."

The pamphlets referred to include the following chapters: 1. Origin and Geologic Data; 2. Basic Specifications; 3. Stairways; 4. Fittings; 5. Toilet Enclosures; 6. Urinal Stalls; 7. Shower Stalls; 8. Laundry Tubs, Sinks and Sink Tops; 9. Caps, Bases, Wainscots and Floors; 10. Architectural Uses of Slate; 11. Miscellaneous Uses of Slate—Natural Slate for Blackboards.

This series of chapters not only includes valuable data on slate and its uses but the material is assembled and presented so as to be readily available for reference use.

A Paint That Will Not Reflect Ultra Violet Rays. (25b25)—(*By W. S. Andrews in the General Electric Review, October 1921.*)—The dangerous invisible rays of ultra-violet light, as produced by the electric arc in welding iron or steel, can be reflected in the same way as visible light, and almost all surfaces that reflect visible light will also reflect the invisible ultra-violet rays to a greater or less extent. There is, however, at least one material which, although pure white, absorbs these rays completely. This material is zinc oxide or Chinese white.

It is evidently desirable that the walls and ceilings of shops where electric arc welding work is done should be covered with a paint that will absorb the ultra-violet radiations. Paint made from zinc oxide will answer this end, but as a pure white paint would produce too dazzling an effect, it is best to tone it down to a light gray with lampblack, which only slightly affects its ultra-violet absorbing quality. Also the paint must be mixed so as to produce a dead surface, as even Chinese white, when made so that it dries with a glossy surface will reflect the dangerous rays. Perhaps the best adhesive medium is glue water, such as is used with lime for kalsomining, as it is cheaper than oil, and the paint so made will dry with a smooth unglazed surface.

Handbook for Architects and Builders. (*Published under the auspices of the Illinois Society of Architects. Twenty-fourth edition. Pages 576. Size 6" x 9".*)—Many changes have been made in this edition to increase the value of the publication. It contains a list of Secretaries of the Chapters of the A. I. A., the States requiring architectural registration, rules and regulations for registration of architects in Illinois and requirements of the National Council of Architectural Registration Boards. It also contains many new articles by men who stand high in the various lines on the subjects treated by them, and many new specifications and much technical data.

Among the contributions of general interest to the profession are the following: *Proper Lighting Fixtures and Their Relation to the Home Beautiful* (31f3) by C. G. Everson, President Lighting Fixture Council. 2 pages. *Structural Building Steel* (13h) by Frank J. Llewellyn, A. S. C. E. 6 pages. This article is a revision of the discussion published in the twenty-third edition of the handbook. *Steel Lumber Construction* (13f) by Stanley Macomber, A. S. C. E. 5 pages. *Revised Specifications for Plain Concrete Floors* (4b3) by Wm. M. Kinney, M. E. 3 pages. *Heating and Ventilation* (30). Edited by Fred. J. Postel, Mech. Eng. 9 pages. *Measuring Ventilation* (30d) by E. Vernon Hill, Aerologist. 1 page. *Furnace Design with Special Reference to Hand Fired Boilers and Limitations of Each Design* (30c1) by Frank A. Chambers of the Smoke Prevention Association of America. 3 pages. *Modern Sanitation of Buildings* (29a) by Leo H. Pleins, Architect and Sanitary Engineer. 10 pages. *Plumbing Design in Tall Buildings* (29a) by Thomas J. Claefy. 1¼ pages. *Varnishes, Stains and Fillers* (25b1) by R. W. Lindsay, Chemist. 6 pages. *Protective, Preservative and Decorative Coverings* (25). 5 pages. *Glass and Glazing* (26). 4 pages.

Magnesite Stucco. (21e2)—(*Specifications Published by the U. S. Geological Survey in "Magnesite in 1920." Size 6" x 9". Pages 16.*)

	Per cent by weight.
Magnesium oxide	10–15
Silica, fine ground	20–25
Sand	70–60

This material is mixed dry and then brought to a working consistency with magnesium chloride of about 22 degrees Baume. Asbestos, not exceeding 30%, may replace part of the sand.

The following specifications for magnesite stucco were proposed at a conference of the War Industries Board, October 17, 1918:

MAGNESITE STUCCO.

Base Coat.	Pounds.	Finish Coat.	Pounds.
Magnesium oxide	335	Magnesium oxide	335
Asbestos fiber	40	Asbestos fiber	40
Granite-marble flour	150	Ground silica	100
Sand	1,475	Sand-Ottawa	1,525
	2,000		2,000
Magnesium chloride	320	Magnesium chloride	320

Average specification:

	Pounds.
Magnesium oxide	335
Asbestos fiber	40
Granite-marble flour	150
Ground silica	50
Sand-Ottawa	1,425
	2,000
Magnesium chloride	320

Magnesium oxide to be not less than 85 per cent of magnesia, calcined to show loss by weight at ignition of not less than 2 per

cent and not more than 6 per cent; ground so that not more than 3 per cent is held on a 100 mesh screen. Magnesium chloride to be 97 per cent pure, not more than 1 per cent CaCl.

This publication also contains tables of production and descriptions of conditions in the magnesite industry.

Magnesite Composition Flooring. (24a)—(*Specifications by P. H. Bates of the Bureau of Standards. Published by the U. S. Geological Survey in "Magnesite in 1920." Size 6" x 9". Pages 16.*)

MAGNESITE FLOORING COMPOSITION.

	Per cent by weight.	
	Top coat.	Under coat.
Magnesium oxide	45	40
Wood flour	15	25
Asbestos	5	0
Color	10	10
Kaolin, talc, or kieselguhr	10	10
Silica	15	15

Of this mixture 90 per cent should pass a 100-mesh sieve, and 85 per cent of magnesium oxide and 90 per cent of silica should pass a 200-mesh sieve. After thoroughly mixing this dry material it should be brought to a working consistency with a 22 degree Baume solution of magnesium chloride. Kaolin, talc, or kieselguhr may be replaced with silica.

Fundamentals of Illumination Design. (31a1)—(*Bulletin 7C, Engineering Department, National Lamp Works, Size 6" x 9". Pages 44.*)—This bulletin presents the principles of lighessen-measurement, its control and distribution—together with scientials of illuminating design. Involved mathematical and t—its tific relations have been avoided and the presentation has been made in a manner calculated to require the least effort on the part of the reader to obtain a working knowledge of illuminating engineering.

The Table of Contents is divided into three parts as follows: Part I, Fundamental Concepts—units of measurement, photometry, and candlepower distribution curves; Part II, Reflectors and Enclosing Glassware; Part III, Illumination Design Essentials—diffusion of light, choice of lighting system, modern illumination standards.

Illumination Design Data. (31a1)—(*Bulletin 41, Engineering Department, National Lamp Works. Size 6" x 9". Pages 32.*)—This bulletin presents a simple method of illumination design adapted to general lighting systems where standard equipment is used. Charts and tables simplify the work and make for accuracy in the design. A color chart is included showing 32 colored paint samples giving a comparison of the light reflection factors for different colors and shades. This shows the important bearing which the colors of walls and ceiling have on both natural and artificial lighting.

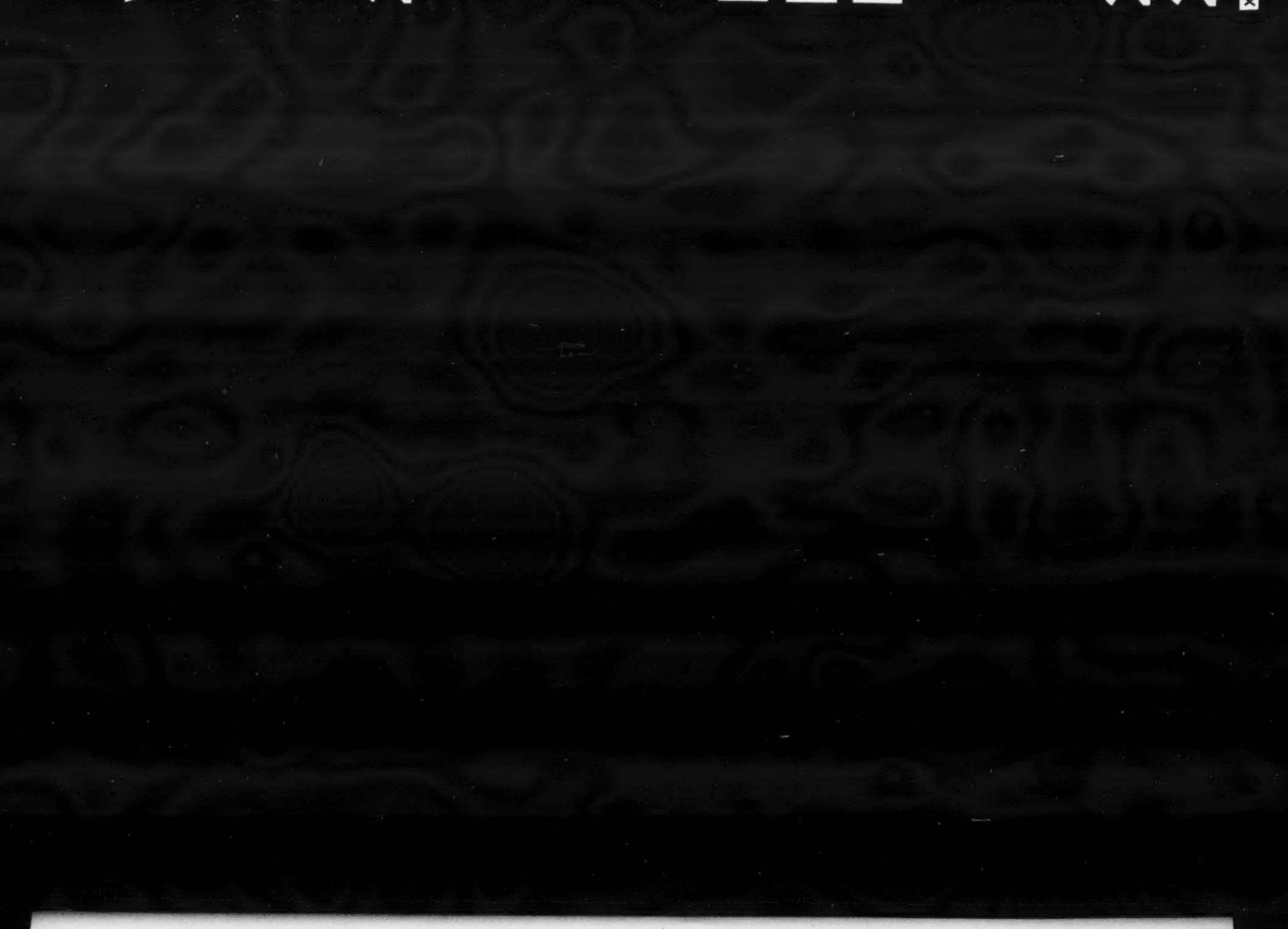
The material and data included are summarized under the following heads: 1. Foot-Candle Illumination; 2. Selection of Type of Lighting Unit; 3. Location of Outlets, Mounting Height, and Number of Lighting Units; 4. Size of Mazda Lamps and Illustrative Example.

Outdoor Tennis Court Lighting. (31a11)—(*Bulletin 24, Engineering Department, National Lamp Works. Size 6" x 9". Pages 10.*)—The lighting of an outdoor tennis court presents a problem which is in several respects unique. The conditions to be met differ from those in other forms of outdoor lighting in that there is no fixed working plane which may be used as a basis for illumination calculations. The light must cover not only the court and the ground in the immediate vicinity but it must fill the whole space through which a ball is likely to travel while in play. Since there are no walls or roof to reflect the light, it is necessary to depend, to a great extent, upon the direct illumination of the units; and furthermore, since the blinding effect of a brilliant source is greatly intensified when the source is viewed against a black background, it becomes extremely important to locate the units outside the normal visual field. The action on a tennis court is unusually rapid and the illumination must be steady and uniform or otherwise swift motion will appear jerky and irregular. All sharp shadows which might cause a player to misjudge either the ball or the ground must be avoided by supplying light from several angles. It is not necessary to provide direct illumination above 20 to 25 feet from the ground, for balls which rise above this height travel comparatively slowly and are sufficiently illuminated by the light reflected from the court, which becomes, under average conditions, a source of an intensity of the order of 2,000 candle-power. The units must not interfere with the play of the ball and their supports must in no way hinder the movements of the players.

There are two systems, the side lighting system and the overhead lighting system, which are applicable to tennis court lighting. In the former, the lighting units are mounted at a moderate height along both sides of the court; in the latter, the units are mounted high above the court, sometimes directly over the court and sometimes between adjacent courts. Many installations are in use today and a number of different varieties of the two systems are employed. However, the requirements of the majority of tennis courts are identical, and a type of installation which has proved itself satisfactory may be applied generally with the certainty that good results will be obtained and with a definite knowledge of the expenditure involved. A thorough study of the best systems has, therefore, been carried on and selections made of those which at the present time give the greatest measure of satisfaction. Plans are given in the bulletin for both side lighting and overhead lighting system. The side lighting systems, described first, is particularly adapted to one court. The overhead lighting system, described second, is less expensive to install and is of particular merit when a number of adjacent courts are to be equipped. With certain alterations this system also may be adapted to one court.

The Lighting of Shoe Factories. (31a13)—(*Bulletin L. D. 124, Lighting Data, Edison Lamp Works. Size 6" x 9". Pages 32.*)—In this bulletin the following subjects are discussed: General Lighting Requirements, Leather Shoe Factories, Sole Leather Dept., Upper Leather Dept., Stitching Dept., Making Dept., Finishing Room, Packing and Shipping Department; Rubber Shoe Factories.

The Lighting of Show Windows and Show Cases. (31a14)—(*Bulletin L. D. 103, Lighting Data, Edison Lamp Works. Size 6" x 9". Pages 29.*)—In this bulletin the following subjects are discussed: Reasons for Show Window Lighting, General Considerations, Lamps and Reflectors, Intensity of Illumination, Color of Light, Direction of Light, Trimming and Background, Special Considerations, Present Practice in Show Window Lighting, Show and Wall Cases, Layout for a Demonstration Window.

Bibliography. The following list indicates some of the leading articles on the subject of show window lighting which have appeared in the technical magazines during the last few years.

"*Show Window Lighting*," J. G. Henniger, Transactions Illuminating Engineering Society, Vol. 7, p. 178. "*Show Window and Show Case Lighting*," A. L. Powell, Lighting Journal, July, 1913. "*The Lighting of Show Windows*," H. B. Wheeler, Transactions Illuminating Engineering Society, Vol. 8, p. 555. "*Illumination of Small Show Windows*," H. B. Wheeler and J. A. Hoeveler, Electrical World, August 15, 1914. "*Effective Show Window Lighting*," H. W. Mateer, Electrical Review, May 12, 1917. "*A Few Points on Modern Window Lighting*," A. L. Powell, Signs of the Times, Aug., 1915. "*Color of Light in the Show Window*," A. L. Powell, Signs of the Times, May, 1917. "*The Lighting of Small Show Windows*," J. A. Hoeveler, National Electrical Contractor, April, 1917.